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ENVIRONMENTAL ASSESSMENT BOARD



ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARINGS

VOLUME: 68

DATE: Wednesday, October 2, 1991


BEFORE:

HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

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A P P E A R A N C E S

B. CAMPBELL)	ONTARIO HYDRO
L. FORMUSA)	
B. HARVIE)	
J.F. HOWARD, Q.C.)	
J. LANE)	
J.C. SHEPHERD	)	IPPSO
I. MONDROW)	
J. PASSMORE)	
R. WATSON	)	MUNICIPAL ELECTRIC
A. MARK	)	ASSOCIATION
S. COUBAN	)	PROVINCIAL GOVERNMENT
P. MORAN	)	AGENCIES
C. MARLATT	)	NORTH SHORE TRIBAL COUNCIL,
D. ESTRIN	)	UNITED CHIEFS AND COUNCILS
		OF MANITOULIN, UNION OF
		ONTARIO INDIANS
D. POCH	)	COALITION OF ENVIRONMENTAL
D. STARKMAN	)	GROUPS
D. ARGUE)	
T. ROCKINGHAM		MINISTRY OF ENERGY
B. KELSEY	)	NORTHWATCH
L. GREENSPOON)	
R. YACHNIN)	
J.M. RODGER		AMPCO
M. MATTSON	)	ENERGY PROBE
D. CHAPMAN)	
A. WAFFLE		ENVIRONMENT CANADA
M. CAMPBELL	)	ONTARIO PUBLIC HEALTH
M. IZZARD	)	ASSOCIATION, INTERNATIONAL
		INSTITUTE OF CONCERN FOR
		PUBLIC HEALTH
G. GRENVILLE-WOOD		SESCI
D. ROGERS		ONGA

A P P E A R A N C E S
(Cont'd)

H. POCH)	CITY OF TORONTO
J. PARKINSON)	
R. POWER		CITY OF TORONTO, SOUTH BRUCE ECONOMIC CORP.
S. THOMPSON		ONTARIO FEDERATION OF AGRICULTURE
B. BODNER		CONSUMERS GAS
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C. GATES)	
W. TRIVETT		RON HUNTER
M. KLIPPENSTEIN		POLLUTION PROBE
N. KLEER)	NAN/TREATY #3/TEME-AUGAMA
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J. CASTRILLI)	JAMES BAY COALITION
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B. ALLISON)	
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U. FRANKLIN)	FOR PEACE
B. CARR)	
F. MACKESY		ON HER OWN BEHALF
D. HUNTER		DOFASCO
B. TAYLOR)	MOOSONEE DEVELOPMENT AREA
D. HORNER)	BOARD AND CHAMBER OF COMMERCE

(iii)

A P P E A R A N C E S

(Cont'd)

T. HEINTZMAN	)	ATOMIC ENERGY OF CANADA
D. HAMER)	
C. FINDLAY)	
P.A. NYKANEN	)	CANADIAN MANUFACTURERS ASSOCIATION - ONTARIO
G. MITCHELL		SOCIETY OF AECL PROFESSIONAL EMPLOYEES

I N D E X o f P R O C E E D I N G S

	<u>Page No.</u>
<u>KEITH DOUGLAS BROWN,</u> <u>PAUL FRANK VYROSTKO,</u> <u>JOHN KENNETH SNELSON; Resumed.</u>	12157
Cross-Examination by Mr. Shepherd	12186

L I S T o f E X H I B I T S

<u>No.</u>	<u>Description</u>	<u>Page No.</u>
323	Outline of IPPSO Panel cross-examination.	12176
324	"The Role of Independent Power", dated May 28, 1991.	12186
321.9	Interrogatory No. 5.14.33.	12267
321.10	Interrogatory No. 5.9.32.	12303
321.11	Interrogatory No. 5.14.216.	12341
321.12	Interrogatory No. 5.14.161.	12347
325	Document Precis entitled, "Excerpt from the transcript of the Ontario Energy Board, HR 16, dated July 15, 1987.	12356

L I S T o f U N D E R T A K I N G S

<u>No.</u>	<u>Description</u>	<u>Page No.</u>
322.1	Ontario Hydro undertakes to provide information about the 90 megawatt Boise Cascade contract.	12225
322.2	Ontario Hydro undertakes to provide a report on reliability data.	12272
322.3	Ontario Hydro undertakes to provide the details on the wind and solar projects and who owns them.	12317
322.4	Ontario Hydro undertakes to determine whether Ontario Hydro in the spring and summer of 1988 had discussions with the Department of Finance and advised the Department of Finance that there would be billions of dollars of projects utilizing Class 34 in the upcoming couple of years.	12356

1 ---Upon commencing at 10:05 a.m.

2 THE REGISTRAR: Please come to order.

3 This hearing is now in session. Be seated, please.

4 THE CHAIRMAN: Now, Mr. Starkman, do you
5 have submissions you wish to make?

6 MR. STARKMAN: Thank you, Mr. Chairman.
7 I don't know, my microphone doesn't seem to be working.

8 THE CHAIRMAN: Mine is working. Is your
9 microphone not working?

10 Thank you, Mr. Shepherd.

11 THE CHAIRMAN: It may be Mr. Shepherd or
12 it may be Dr. Connell, I am not sure who.

13 MR. STARKMAN: Thank you, Dr. Connell.

14 DR. CONNELL: We share the credit.

15 MR. STARKMAN: I just wanted to address
16 very briefly our concerns about Hydro's evidence
17 yesterday concerning major supply NUGS and their desire
18 to split out some part of the discussion with respect
19 to those matters to Panel 8.

20 I guess our concern is to try and
21 delineate before the cross-examination starts precisely
22 what questions are going to be asked into what panel.
23 And I guess part of the background is that Hydro did
24 file a supplementary witness statement concerning the
25 evidence of this panel on September the 20th and I

1 certainly didn't glean from that statement or anything
2 else previously filed that they intended to split the
3 evidence and that they had somehow taken out major
4 supply NUGS. And I mean, I found it surprising and I
5 don't know, maybe other people got a different message
6 from it, but I guess this is a comment on the process
7 that Hydro has been following. I don't know what the
8 remedy is, but I can't let that pass.

9 In terms of what we would like to see, we
10 want to be clear that we will be able to cross-examine
11 this panel on a number of issues and let me just set
12 them out and then we can see where we are going.

13 First of all, we would like to be able to
14 cross-examine the panel on whether their explanation of
15 the 1,000 megawatt increase is consistent with the
16 statements made by the Chairman of Ontario Hydro.

17 Secondly, and perhaps most important, we
18 want to be able to ask questions of this panel with
19 respect to the environmental constraints and guidelines
20 used by these planners to screen NUGs and major NUGs.

21 In other words, it is our understanding
22 that whether or not something is or isn't a major NUG,
23 it nevertheless goes through the non-utility generation
24 panel. They make the decision as to whether or not a
25 specific project is to go ahead. And we want to be

1 able to ask questions about the type of environmental
2 screening they have to determine the acceptability of a
3 particular project and we don't want to have a
4 situation where they say, well, that is a major NUG;
5 that is off in Panel 8. We want to be able to ask them
6 because they are the people who are making the
7 decisions.

8 We would like to be able to ask questions
9 with respect to the delineation between a major NUG and
10 a preference NUG. And part of it comes from the
11 evidence yesterday and I think it was a question from
12 the Chairman, but basically, for example, if you have a
13 half a kilowatt gas-fired CTU, is this a major supply
14 NUG or I mean, how does it fit? Where is the dividing
15 line?

16 I think there was some discussion, they
17 said they didn't know, but we would like to be able to
18 probe into that.

19 And lastly, we would like to be able to
20 ask questions with respect to whether major supply NUGs
21 are, in fact, similar to combined cycle CTUs which
22 Hydro proposes in the balance of power. And they have
23 said, these are similar to what we have proposed. That
24 is why we want to treat them in Panel 8. We don't
25 believe they are similar. We would like to be able to

1 ask questions about that.

2 So really, we are asking at this point to
3 have a clear delineation of the type of questions that
4 are permitted. If this panel is saying, we don't have
5 enough technical expertise to talk about the workings
6 of major supply NUGs and they want to leave that to
7 Panel 8, then I guess we are satisfied with that, but
8 we don't want to be foreclosed about asking these other
9 sorts of questions. Those are our concerns.

10 THE CHAIRMAN: Mr. Greenspoon, do you
11 have anything to add to that?

12 MR. GREENSPOON: Yes, Mr. Chairman, thank
13 you. My concerns are similar but they relate to the
14 alternatives. We are concerned with the moving of
15 alternatives to Panel 8. It seems to us that Hydro has
16 defined alternatives, as I understand it, as biomass,
17 solar and wind and to classify those with fossil fuels
18 doesn't have any natural sense to us. And as Mr.
19 Starkman raised the concerns, we want to be able to
20 question this panel on how they evaluate these
21 alternatives in the NUG plan.

22 I have discussed this with Mr. Campbell
23 and as long as it is clear that a non-answer by this
24 panel can somehow be referenced when Mr. Campbell
25 brings the right expert forward is satisfactory to

1 Northwatch, but that is our concern.

2 And as well, I think as Mr. Starkman
3 said, well, I think he probably meant a half a megawatt
4 CTU. We are concerned about that. Where is the
5 cut-off line between a major supply and an alternative?

6 And the reason I should put on the record
7 is I understand about 70 per cent of the NUGs are in
8 Northern Ontario, so that is why we are concerned.

9 THE CHAIRMAN: Of the existing ones or
10 the proposed ones?

11 MR. GREENSPOON: Yes, sir, existing.

12 THE CHAIRMAN: Now, before I ask Mr.
13 Campbell, is there anyone else who has got any concerns
14 about the delineation?

15 Mr. Campbell, which one of these items --
16 I mean, do any of these give you any problems; if so,
17 which ones and to what extent?

18 MR. B. CAMPBELL: I don't think any of
19 these give us any, problems, Mr. Chairman, with respect
20 to the explanation of 1,000 megawatts and whether it is
21 consistent with the chairman's statement. That is
22 clearly a matter that this panel can speak to.

23 The consideration of environmental
24 constraints the panel has addressed to some degree in
25 its evidence in-chief in that it requires compliance

1 with regulations and then further exploration of that
2 evidence is obviously appropriate.

3 The delineation between major and
4 preferred, I believe the panel can speak to as they did
5 yesterday. There was some discussion about having to
6 do some thinking about where the efficiency breakoff
7 would be for purposes of that classification.

8 And the treatment for planning purposes,
9 I think that is quite appropriate to explore with this
10 panel, although as the panel was quite frank to say
11 yesterday, all of the details of that are not yet
12 worked out.

13 With respect to major supply NUGs being
14 the same as CTU-CCs, again, I think that question can
15 be explored to some degree with this panel. It has
16 much to do with -- in terms of this panel, Mr. Snelson,
17 I think, can speak to the planning considerations that
18 are involved in those choices. So, I think that one, I
19 believe, can be dealt with.

20 There may be some areas where we would
21 indicate where you have really got to wait for the
22 Panel 8 evidence to deal with that because it is there
23 that the expertise on that particular technology was
24 always intended to be called.

25 The Board will recall that Panel 8 is the

1 fossil panel and it looks at a wide range of fossil
2 options as the plan looked at a wide range of fossil
3 options, narrowed those down to the ones that are
4 included in the plan. And the focus on those types of
5 technologies has always been on Panel 8.

6 We do have a situation where because of
7 the success of NUG efforts over the last year combined
8 with low natural gas prices, there has been an
9 increasing emphasis in these recent projects as you
10 have heard on similar technologies being implemented by
11 NUGs.

12 But I think we have been quite clear all
13 along that that basic technology in terms of the nature
14 of the technology and its environmental effects would
15 be dealt with in Panel 8. And there is a statement
16 explicitly to that effect in paragraph 9 of the
17 supplementary witness statement that we filed, where we
18 speak about we these projects being similar to Hydro's
19 own proposal for major supply i.e. CTU-CC, combustion
20 turbine units-combined cycle and would be evaluated on
21 the same basis in accordance with system need, the
22 technologies involved and the environmental impacts
23 will be discussed in the Panel 8. So, we have been
24 quite clear about that from the beginning. I don't
25 anticipate though any major problems with the matters

1 that Mr. Starkman has raised.

2 With respect to alternative energy
3 technologies, I would like to record that if there has
4 been any vacillation as to where this was going to be
5 dealt with, it has been as between Panel 7 and 8, never
6 this panel. There is transcript references in April,
7 May, June, July, all of which speak to alternative
8 technologies being dealt with.

9 The thought was, as Panel 7, we have
10 taken a look at that, given the matters that have to be
11 dealt with at Panel 7. I raised this matter on scoping
12 meetings with the parties previously. And because some
13 of the technologies involved do involve combustion or
14 biomass burning for electricity generation and there
15 would be an overlap on the air emissions and related
16 issues, we have taken a decision to move that to Panel
17 8, but that is the only change.

18 [10:15 a.m.]

19 It's never been contemplated. We have
20 always spoke of it as being in a later panel than Panel
21 5. As I say, in my submission that's been clear
22 throughout.

23 In terms of how the NUG division in its
24 business intends to deal with the incorporation of some
25 of these alternative technologies and the evidence that

1 Mr. Brown has given that certainly for the post-2000
2 period he expects to be including some provision for
3 alternative technologies, those matters can be explored
4 in cross-examination.

5 Again, I don't anticipate a big problem
6 based on what my friends have said, and I think we are
7 quite prepared to proceed on that basis.

8 THE CHAIRMAN: Well, I don't detect that
9 there is a major problem here. It seems to me quite
10 relevant to this panel that the environmental
11 considerations that are taken into account to the
12 extent they are or are not is a relevant consideration
13 for this panel. The major NUG supply is a new concept,
14 but cogeneration is not a new concept, and when we get
15 to the physical aspects of the various technologies, it
16 may turn out to be appropriate to defer those to
17 another panel as it comes up. But I don't really see
18 much of a problem. We seem to be in general agreement
19 and we may have to deal with specific issues as we go
20 along, but I think we can now proceed.

21 MR. B. CAMPBELL: Thank you, Mr.
22 Chairman.

23 THE CHAIRMAN: Before Mr. Shepherd takes
24 over, Dr. Connell has a couple of questions.

1 KEITH DOUGLAS BROWN,
2 PAUL FRANK VYROSTKO,
3 JOHN KENNETH SNELSON; Resumed.

4 DR. CONNELL: Panel, I would like to try
5 to clear up my understanding of some of the issues
6 surrounding gas prices. Perhaps I could begin by just
7 citing three points in the transcript yesterday at
8 which this issue came up.

9 If you have your transcripts handy, the
10 first is page 12080, beginning at line 12, this is Mr.
11 Vyrostko, in the middle of that paragraph:

12 "As a result of the very low gas
13 prices to date, in essence, these 1,000
14 megawatts of projects were projects that
15 were not anticipated in the 1990 NUG
16 plan."

17 12097, essentially the same point in
18 response to a question from the Chair, Mr. Brown said
19 at line 25 and continuing on the next page:

20 "A decrease in the gas price has made
21 these purchases viable." The same 1,000 megawatt
22 reference.

23 And then on page 12127 and 12128, this
24 refers to Exhibit 320, page 17, which I hope you have
25 in front of you. The paragraph beginning at the bottom
at page 12127 reads:

1 "Of interest on this slide is first at
2 the beginning in the year 1990 you see
3 the steady decrease in the starting
4 prices of gas, which we have been seeing
5 over the last couple of years, the
6 decrease which is making the natural gas
7 projects more viable."

8 And continuing in the next paragraph:

9 "And also shown in this slide is the
10 increase from the 1989 NUG plan forecast
11 to the one that was used in the 1990.
12 This change resulted in the estimate of
13 economic potential decreasing from 5,000
14 megawatts from the 1989 NUG plan to only
15 1,200 megawatts in the 1990 NUG plan."

16 I wonder if I could first just ask Mr.
17 Brown to clarify that reference to the economic
18 potential. Can I find that 1200 megawatts on page 11
19 of Exhibit 320, Mr. Brown? That's the NUG plan
20 summary.

21 MR. BROWN: That would be the 1250, the
22 year 2000 attainable.

23 DR. CONNELL: Yes, okay. So, the 1,200,
24 if we are going to make it three significant figures,
25 it would be 1,250 then.

1 MR. BROWN: That's correct.

2 DR. CONNELL: I understand, okay.

3 Referring back to Exhibit 320, page 17, I
4 would like to ask the source of these gas forecasts.
5 Are these generated within Hydro?

6 MR. BROWN: The forecast used in the 1990
7 NUG plan and the one proposed for the 1991 NUG plan are
8 produced by Ontario Hydro, as discussed in Panel No. 1.

9 The forecast that used in the '89 NUG
10 plan was generated by our division and was based on gas
11 contracts typical of projects going in service in '89.

12 DR. CONNELL: And have you compared these
13 with other people's gas forecasts, gas price forecasts?

14 MR. BROWN: I think that will be
15 discussed in a further panel.

16 MR. SNELSON: Perhaps I could help here,
17 Dr. Connell, and that is that the documentation of the
18 forecast that was included in the most recent Hydro
19 forecast of gas prices is in Exhibit 14, which is the
20 energy price trends report, November 1990. I believe
21 that's the most recent one.

22 DR. CONNELL: Do the NUG proponents have
23 access to these forecasts? I presume they do.

24 MR. VYROSTKO: Yes, they do.

25 MR. BROWN: The most recent one is on

1 display in our front hallway of the NUG division.

2 DR. CONNELL: So they are fully aware, if
3 I compare '89 to '91, they are fully aware that there
4 is a crossover coming in 1996 if your forecasts are
5 fulfilled.

6 MR. BROWN: I don't know if anybody has
7 compared the two.

8 DR. CONNELL: I think what is puzzling me
9 is why, according to your testimony yesterday, the
10 present gas prices would be so influential when the
11 proponents are presumably contemplating projects which
12 will endure for ten, fifteen, twenty years or more.

13 MR. VYROSTKO: Perhaps maybe I can talk a
14 little bit about that.

15 When we first got into business back
16 about two years ago with natural gas pricing, the
17 deregulation of the gas industry had created an
18 expectation that a lot was going to happen with regard
19 to gas pricing, and throughout the '88/89 period, the
20 expectation was that the gas price where it was in '89
21 was going to escalate significantly, and that tended to
22 then put a damper on the activities in our business.
23 But deregulation, in fact, hasn't done that. In fact,
24 if anything, we have seen starting in 1990 and carrying
25 on to 1991, gas prices have, in fact, decreased, and I

1 think -- I can't speak to all the reasons behind that,
2 but I think competition clearly is bringing the price
3 down. I think the overall economic situation is
4 tending to stop some of the sales and therefore they
5 are having to reduce their prices.

6 So, the contracts that we have been
7 seeing with the producers and with the developers have
8 in fact -- the starting price has come down over the
9 last two years.

10 [10:25 a.m.]

11 DR. CONNELL: So may I infer from that,
12 Mr. Vyrostko, that your 1989 gas price forecast was not
13 credible with the proponent, they were anticipating
14 much higher prices than Hydro was?

15 MR. VYROSTKO: Over the long term?

16 DR. CONNELL: Yes.

17 MR. VYROSTKO: That's correct. That was
18 one of the issues that we had to work with the industry
19 on and that was to try to bring a balance between what
20 they were expecting over the long term and, sort of,
21 what we were expecting because the gas industry was
22 really looking for, what I think they called at that
23 time, the hockey stick phenomena, sort of flat prices
24 in the short term and then a tremendous rise in
25 pricing.

1 So when we first forecasted we were out
2 of step with them in terms of that projection over the
3 long term.

4 DR. CONNELL: So if they had believed
5 your '89 forecasts they might have been much more
6 enthusiastic much earlier?

7 MR. VYROSTKO: That's correct.

8 DR. CONNELL: I would like to turn, if I
9 may, to some testimony from Monday, the 30th. This is
10 Volume 66 from Panel 4. If you have that document
11 accessible.

12 MR. B. CAMPBELL: We don't have it here.

13 DR. CONNELL: Perhaps I can just read
14 into the transcript the relevant section.

15 This concerns Exhibit 309, which is the
16 incremental system values of power and energy, August,
17 1991. I know this is a document you're very familiar
18 with, Mr. Shalaby.

19 THE CHAIRMAN: Mr. Snelson.

20 DR. CONNELL: Mr. Snelson.

21 MR. SNELSON: Mr. Shalaby is also very
22 familiar with it.

23 DR. CONNELL: And also Exhibit 175, which
24 was its predecessor dated February 21st, '91.

25 On page 11937 Mr. Shalaby said, in a

1 response to a question that I put to him concerning the
2 changes in the system incremental values from February
3 to August:

4 "One of the important things that
5 occurred in the August '91 is that there
6 was a lower load forecast in the early
7 90s. So the period up to '95, '96,
8 there was a lower load forecast than we
9 projected before. That has the impact of
10 lowering the incremental values in the
11 early years, '91 to '95, '96."

12 And I'm not sure if you want to look at
13 the values, but let's just take a typical one from
14 Exhibit 309. Do you have 309 with you?

15 MR. SNELSON: Yes, I do.

16 DR. CONNELL: Let's take 1995, winter
17 peak, for example, thirty 1991 dollars per
18 megawatthours at the generator station bus, you can
19 tell me if I'm --

20 MR. SNELSON: We are looking at the
21 project appraisal values?

22 DR. CONNELL: Yes, in Exhibit 309.

23 MR. SNELSON: Yes.

24 DR. CONNELL: 1995 winter peak, mills per
25 kilowatthour, which is presumably the same, 48.8 mills

1 per kilowatthour.

2 So there has indeed been a very
3 significant change and, obviously, it would require a
4 great deal of detail to understand how those changes
5 would impact on the thinking of a NUG proponent.

6 But I wonder if you can give me some
7 sense of how that factor is affecting them and whether
8 that, in fact, to some extent offsets the impact of gas
9 prices?

10 MR. SNELSON: I can comment from a
11 planning perspective, and if I can also refer you to
12 309, then pages 8 and 9 have figures showing the
13 comparison of the February, '91 and what is shown as
14 July 91, but which is the 309 numbers, and there are
15 two figures; one for planning values, one for project
16 appraisal values, and that shows the effect that Mr.
17 Shalaby was talking about of the values when you
18 combine together all of the four time periods for
19 energy and the capacity values for a reasonably high
20 capacity factor, that shows the scale of the difference
21 that one is looking at.

22 So, the message that these values should
23 be sending is that there is a lesser need in the early
24 1990s and a greater need around, on a planning basis,
25 year 2000 and later and on a project appraisal value

1 basis around '96 or '97 and later, somewhere in that
2 area.

3 As regards what a NUG proponent actually
4 does with these is that because the avoided cost is
5 evaluated over the whole contract period, then that may
6 or may not reflect into a significant change in the
7 rate that is offered to the non-utility generator.

8 He will be offered a rate which will be
9 calculated by Mr. Vyrostko's division based on the
10 present value of the avoided cost over the whole
11 contract period. So if some years are down and some
12 years are up, then that may not reflect as a very big
13 change to the non-utility generator. And this should
14 reflect an improving value to projects that are coming
15 in in the mid-1990s and later, and perhaps somewhat
16 lesser value to projects that are coming in in the
17 early 1990s.

18 DR. CONNELL: It did strike me as curious
19 that the cross-over in the figure you've drawn our
20 attention to on page 9 did cross-over just about the
21 point where you get the cross-over in the natural gas
22 forecast between the '89 forecast and '91 forecast.

23 MR. SNELSON: I would expect that to be a
24 coincidence not of particular significance.

25 DR. CONNELL: Yes. But what Mr. Vyrostko

1 has said is that in the mind of the typical NUG
2 proponent that gas price cross-over really didn't
3 happen because they believe the 1989 outlook was toward
4 much higher prices.

5 MR. VYROSTKO: That's correct.

6 DR. CONNELL: I would just like to
7 proceed a little farther in the transcript I cited,
8 page 11937, quoting again from Mr. Shalaby:

9 "The second major development that was
10 included in that more recent exhibit...",
11 referencing Exhibit 309 again,

12 "...is that it includes the effect of the
13 nuclear moratorium. And what that does
14 is introduces into our plans fossil-fired
15 generation, a combined cycle plant and an
16 integrated gasification combined cycle
17 plant, a natural gas-fired and coal-fired
18 plant in the period 2003 to 2008. So, it
19 is a fossil-fired plant where in the
20 previous documents there were
21 nuclear-generated electricity."

22 Now, what I would like to put to you here
23 is: Is that change significant in your current project
24 appraisal costs and in your relationships to the NUG
25 proponents, or is that too far distant to have much

1 impact on current negotiation?

2 MR. SNELSON: Again, from a planning
3 viewpoint, it affects the system incremental costs for
4 the period in the middle of the first decade of the
5 next century, which is about the time that Mr. Shalaby
6 indicated, and that will have some influence in
7 proportion to the number of years affected and the
8 degree of the effect or the avoided cost of a twenty
9 year contract that is coming into service in '95, say,
10 and lasting to 2015.

11 So, it will have some influence on the
12 avoided cost that is calculated. But, again, because
13 it's averaged with the other years, then as a single
14 influence it will be somewhat diluted by the other
15 years over which it is averaged.

16 [10:37 a.m.]

17 DR. CONNELL: Is it clear yet whether the
18 natural gas-fired plant cited by Mr. Shalaby is going
19 to be used in a base load mode or not?

20 MR. SNELSON: I believe that the
21 assumption that would have been used is that it would
22 have been used for either peaking or intermediate use
23 but not base load use.

24 DR. CONNELL: Where as the --

25 MR. SNELSON: Based on system economics

1 and fuel cost.

2 DR. CONNELL: Whereas, the integrated
3 gasification combined cycle plant, that would be a base
4 load unit presumably?

5 MR. SNELSON: It would be loaded much
6 heavier because of its lower fuel cost than the
7 gas-fired plant, but it would be loaded in the loading
8 order after our nuclear plants which have lower fuel
9 costs than a coal-fired plant.

10 DR. CONNELL: Yes.

11 MR. SNELSON: So, it would be somewhere
12 towards the base load end of operation

13 DR. CONNELL: Yes. So, the high capacity
14 factor NUGs that you cited would, in effect, be
15 competing against some mix of nuclear and coal-fired
16 plants for the most part?

17 MR. SNELSON: For their energy
18 contribution, yes; for their peaking contribution with
19 whatever is the peaking option. So it is a blend of
20 the various options.

21 DR. CONNELL: Thank you very much.

22 THE CHAIRMAN: Just a moment, Mr.
23 Shepherd. Ms. Patterson has some questions.

24 MS. PATTERSON: I just wanted to
25 follow-up on Dr. Connell's question about gas prices.

1 And did I understand correctly that the
2 reason that gas-fired plants seem more probable now is
3 that Hydro and the proponents are closer together in
4 their estimates about what gas prices will be in the
5 future even if they tend to be higher, so that Hydro is
6 willing to pay on the basis of that gas price forecast?

7 MR. VYROSTKO: As Mr. Snelson just
8 pointed out, we pretty well determine the price that we
9 pay for a project based on the project appraisal
10 avoided costs that are provided to us by system
11 planning.

12 And then we take what that value of that
13 project is over the twenty years if it is a twenty year
14 project, calculate what the total value of that is and
15 bring it down to present value, which then reflects the
16 individual avoided costs of each of those years.

17 The present value is the starting rate.
18 The total twenty year package is the amount of money
19 that we can afford to pay for that project within
20 avoided cost.

21 And now, the challenge for ourselves and
22 the developer and the gas industry is then to put a
23 project together that takes gas pricing, however the
24 gas industry sees it and however they want to translate
25 that to the developer, and can put that pricing package

1 within the overall umbrella of the avoided cost.

2 You can start with a higher price at the
3 front end with a lower escalation or you can start with
4 a lower price at the front end with a higher escalation
5 or any combination thereof.

6 The reason for our gas forecast for us is
7 the gas forecast that Hydro produces gives us the range
8 of escalation that we can accept within the overall
9 project avoided cost.

10 But if the gas industry or the developer
11 can do something differently and still stay within
12 that, then the gas pricing from that perspective is not
13 related to the avoided cost.

14 MS. PATTERSON: Thank you. I have some
15 questions on the witness statement as well. And I
16 guess before that, in terms of the 1,000 extra
17 megawatts and Exhibit 320, the evidence was that the
18 1,000 was made up of - on page 19 of Exhibit 320 - 650
19 megawatts from cogeneration under industrial and gas
20 compressor stations and 350 from fossil fuel, major
21 supply.

22 Can you break down that a bit more? In
23 terms of the 350 megawatts, is that a single major
24 supply option?

25 MR. VYROSTKO: Yes, it is.

1 MS. PATTERSON: And in terms of the
2 cogeneration megawatts --

3 MR. BROWN: 240 is in the combined cycle
4 category and the remainder in the industrial
5 cogeneration category.

6 MS. PATTERSON: The reason that you are
7 including only 350 megawatts in the NUG plan for major
8 supply is that because basically, any NUG, any major
9 supply NUGs would replace major supply that Hydro
10 already has in its plan, so it would be double counting
11 if you included potential further major supply from
12 NUGs?

13 MR. BROWN: It is included in the plan
14 because in the 1991 plan, as this project is expected
15 to be committed, and as I mentioned yesterday, as these
16 projects are committed, they will be in the NUG plan
17 and we will be accounting for that in our numbers. So
18 it is part of the 1,000 and it is one of the reasons
19 why it went to 3100.

20 There is still no forecast of additional
21 above that. It is a particular site that we believe
22 will be committed by year end and will be included in
23 the '91 NUG plan.

24 MS. PATTERSON: But in the normal
25 planning process, you would include what you thought

1 would occur in the future and you are not doing that
2 with these major supply NUGs. You are just putting
3 them in as you have them committed.

4 MR. SNELSON: Perhaps I can speak to
5 that. The intention is that through a variety of
6 planning processes, including this one, we will be
7 considering the need for major supply options from
8 -combustion turbine and combine cycle generation; and
9 that implementing that technology through non-utility
10 generation is one of the options that is available for
11 implementing that, and that option is still open and is
12 not being closed.

13 Clearly, when a specific plan is made
14 either to implement that option with Ontario Hydro
15 generation or with non-utility generation, then it will
16 be accounted for in the planning process.

17 And the way in which Mr. Brown has
18 indicated it is that we will account for that by
19 including it in the NUG plan at that time, at the time
20 that it is a specific plan that is intended to go
21 ahead.

22 MS. PATTERSON: I just have a couple of
23 other questions with respect to the witness statement.
24 Paragraphs 7 and 16 have figures that seem to be
25 related to the same reply. The first paragraph, 7,

1 says:

2 The NUG industry has 73 committed and
3 in-service projects totalling 718
4 megawatts.

5 And I believe that has been changed by
6 page 2 of Exhibit 320, which has 74 projects and 730
7 megawatts.

8 MR. BROWN: Since the time this was
9 prepared, one project has been committed and added to
10 the list representing the, I believe, 13 megawatt
11 difference. It is a hydraulic project.

12 MS. PATTERSON: And then in paragraph 16,
13 you say that you have 68 megawatts of committed NUGs,
14 over 1,000 megawatts of NUGs which are on the verge of
15 being committed and about 700 megawatt of proposals
16 under serious negotiations.

17 So, does this figure not include the
18 earlier 730?

19 MR. BROWN: The 68 megawatts is included
20 in the 731 and the 1,000 would be in addition to that.

21 MS. PATTERSON: And the 700 in addition
22 is under negotiation?

23 MR. BROWN: Yes, those are still under
24 negotiations.

25 MS. PATTERSON: Thank you.

1 THE CHAIRMAN: Mr. Shepherd?

2 MR. SHEPHERD: Thank you, Mr. Chairman.

3 I have quite a number of preliminary odds and ends to
4 deal with. Bear with me, please.

5 My clients have accepted the
6 responsibility of being the lead intervenors on this
7 panel and because of that, we hope to deal with all of
8 the key issues relating to non-utility generation. We
9 have had discussions with the other intervenors and
10 many of them are relying on us to cover the ground as
11 it were.

12 Some of these issues, in fact, have been
13 issues that have been the subject of intense debate and
14 disagreement over the last couple of years.

15 However, we have learned from our Panel 3 experience
16 and we now plan for four days of cross-examination of
17 these witnesses. And I think it is fair to say that
18 that is a pretty reliable estimate from what I can see
19 now anyway.

20 As with other panels, we have prepared an
21 outline of our cross-examination to assist you. That
22 has been filed with the Registrar and I understand you
23 have copies. I don't know whether it has an exhibit
24 number yet. That is this one here, outline, IPPSO,
25 Panel 5 cross-examination, the one page which was

1 delivered this morning, I believe.

2 THE REGISTRAR: Exhibit No. 322.

3 MR. SHEPHERD: 322?

4 THE CHAIRMAN: What is the undertaking
5 exhibit?

6 MR. SHEPHERD: I thought that was the
7 undertaking.

8 THE CHAIRMAN: What is the undertaking
9 exhibit number?

10 MR. CAMPBELL: 323.

11 THE CHAIRMAN: This will be 323 then.

12 MR. SHEPHERD: Okay, 323.

13 THE REGISTRAR: The undertaking number is
14 321.9.

15 THE CHAIRMAN: No, no. That is the
16 interrogatories number.

17 THE REGISTRAR: Oh, I am sorry.

18 THE CHAIRMAN: We haven't had any
19 undertakings yet.

20 MR. B. CAMPBELL: 322 is the
21 undertakings.

22 THE CHAIRMAN: But there's no
23 undertakings entered into it yet.

24 MR. B. CAMPBELL: Not yet.

25 THE CHAIRMAN: No.

1 MR. SHEPHERD: We will try to rectify
2 that shortly, Mr. Chairman.

3 THE CHAIRMAN: Just so we are all on
4 track, the outline of the IPPSO panel and
5 cross-examination is No. 323.

6 ---EXHIBIT NO. 323. Outline of the IPPSO panel and
7 cross-examination.

8 MR. SHEPHERD: Thank you, Mr. Chairman.
9 We do expect that there is a significant likelihood
10 that we will have to depart from this outline. It is
11 true partly because of the recent changes that we have
12 seen, the supplementary witness statement, the evidence
13 yesterday, which have thrown us into a bit of a tizzy
14 and we may have to dance a bit to keep up with it. And
15 it is also partly true because, as I will speak to in a
16 second, the issue of confidential information may come
17 up and may throw everything off.

18 On the issue of confidentiality, perhaps
19 I can just explain where we are right now so that
20 nothing comes as a surprise. We have spoken to Ontario
21 Hydro about it and we have advised the Board formally
22 that we have not been able to come to an agreement with
23 Ontario Hydro on what information should be released or
24 not.

25 What we have said is that rather than

1 proceed with some sort of motion on it in advance, we
2 will be proceeding with our cross-examination and
3 seeing just what kind of barrier it presents, if at
4 all.

5 I should advise you that we don't intend
6 the first time we hit confidentiality to simply jump up
7 and say, okay, let's have a motion. Our intention is
8 to see whether it is a barrier in a number of areas and
9 I would say several rather than a couple.

10 We have identified in our
11 cross-examination questions those areas where we know
12 it will come up and we have made a determination that
13 if those are the only areas it comes up, we will not be
14 proceeding with a motion on that point.

15 However, if it comes up in other areas
16 where we hope it won't, then we will have to make an
17 assessment at the time.

18 [10:50 a.m.]

19 In that circumstance we have advised Mr.
20 Campbell that we would anticipate breaking off from
21 that area of cross-examination, asking for a motion
22 returnable the next morning, which I understand Mr.
23 Campbell is in agreement with.

24 MR. B. CAMPBELL: No, no.

25 MR. SHEPHERD: Sorry?

1 MR. B. CAMPBELL: I will let you finish.

2 MR. SHEPHERD: I will let you clarify it
3 in a minute.

4 And proceeding with both oral and written
5 submissions on the point.

6 I will also tell you that - and I have
7 told Mr. Campbell this - at the point where we expect
8 that this is going to come up, if it does, and I should
9 say we hope it does not, we will be providing him with
10 an early draft of our written legal submissions so he
11 isn't taken by surprise on short notice.

12 Maybe before I get to things, Mr.
13 Campbell has some comments on confidentiality.

14 THE CHAIRMAN: Let's just put a scenario
15 in, supposing this happened at 11:15 this morning, I
16 take it we wouldn't then suspend the operation until
17 tomorrow morning, you would go on to some other area of
18 your cross-examination?

19 MR. SHEPHERD: That's the intent, that I
20 will move on to another subject and we will deal with
21 the first one after we have thought about it.

22 THE CHAIRMAN: All right. Is that the
23 sum of what you want to talk about on this subject?

24 MR. SHEPHERD: On that subject, yes.

25 THE CHAIRMAN: Mr. Campbell?

1 MR. B. CAMPBELL: The only reason I demur
2 slightly is on the base of returnable the next morning.
3 Mr. Shepherd has advised me that if he has to pursue
4 this matter in a serious way, it will be, as he
5 described, by written and oral submissions. In that
6 situation, he also indicated to me that he would be
7 relying extensively on case law, in those circumstances
8 we would certainly not be in a position to respond to
9 all of that the next morning. Nor I think is it, in
10 the end, an appropriate way to proceed.

11 A considerable amount of the kind of
12 discussion that Mr. Shepherd and I have had around this
13 matter involves information that is provided to Ontario
14 Hydro on a confidential basis by NUG proponents. And
15 it's certainly I think - although I would want to talk
16 to in particular Mr. Vyrostko about this, but I have a
17 notice concern about this as well in that if there is
18 information being sought with respect to particular
19 proponents' projects, they are entitled to full and
20 adequate notice to come and participate in that debate.
21 That is a concern that I think has to be dealt with in
22 this context as well.

23 We would certainly want to make sure that
24 the people whose projects are actually involved in this
25 kind of matter themselves were advised of the

1 possibility of such an order being requested.

2 So, I think that my caveat is on the
3 doing it the next morning side, not on the general
4 approach, I have no particular argument with that. But
5 it has occurred to me in thinking about this matter,
6 that there is another interest here that is pretty
7 directly affected.

8 ---Off the record discussion.

9 MR. B. CAMPBELL: Mr. Chairman, the other
10 thing that I will raise if this happens is that I may
11 well have to speak, have the Board's or the parties'
12 permission to speak to Mr. Vyrostk on these matters if
13 it's going to be argued in the middle of
14 cross-examination. I need to obtain instructions with
15 respect to the specific requests that are being made.

16 Mr. Shepherd and I have talked about this
17 in a number of areas, but it's when the particular
18 questions arises, I think if it is going to motion I am
19 going to have to be able to speak to Mr. Vyrostk and
20 Mr. Brown in order to obtain instructions on the
21 matter.

22 Again, I just record that because I think
23 as a practical matter there is no other place I can get
24 instructions.

25 THE CHAIRMAN: When you say it can't be

1 the next morning, when do you say this should be?

2 MR. B. CAMPBELL: I think I am in no
3 position to be able to suggest that until the
4 particular circumstances arise. We are talking about
5 individual developers and I think the question is as
6 much theirs as it is Ontario Hydro's to make
7 submissions on that matter.

8 I raise a concern that we are talking
9 about people's business here and they are entitled to
10 appropriate notice.

11 THE CHAIRMAN: I understand your point.

12 MR. B. CAMPBELL: I can't see them being
13 in a position to respond to that kind of a motion about
14 their own businesses without at least a week.

15 THE CHAIRMAN: You don't have to answer
16 this question if you don't want to, but in your
17 discussions with Mr. Shepherd, have you identified who
18 the third parties are and have they been in any way
19 communicated with so that they themselves are familiar
20 with the situation?

21 MR. B. CAMPBELL: We did suggest to Mr.
22 Shepherd that if he needed information on particular
23 projects, that it was of course open to him to approach
24 those project proponents.

25 THE CHAIRMAN: That's what Mr. Howard

1 said when the this came up last time in Panel 3, I
2 think it was.

3 MR. B. CAMPBELL: We do not see it as our
4 role to do so. We have a very clear understanding as
5 to the basis on which certain information is provided
6 to Ontario Hydro and it's provided on the understanding
7 that it would be kept confidential.

8 THE CHAIRMAN: I suppose it may be - and
9 I don't like talking about things in general - but it
10 may be that the very identity of the third parties is
11 confidential.

12 MR. B. CAMPBELL: I think that's not such
13 a problem once a project is committed. It's up to the
14 point of commitment, yes that can be a concern.

15 THE CHAIRMAN: Well, in your scheme of
16 things, do you have any reasonable of anticipation of
17 when this issue may be tripped over?

18 MR. SHEPHERD: Mr. Chairman, it could be
19 tripped over as early as this afternoon. But I would
20 expect that if it happens, it won't happen until Monday
21 morning, just from where I am and what I am going
22 after.

23 THE CHAIRMAN: It's really very difficult
24 to deal with these issues in a sort of an abstract way.
25 I think we have to wait to see what happens and deal

1 with it at that time.

2 MR. SHEPHERD: I wonder if I could make
3 just a couple of comments on what Mr. Campbell said. I
4 won't take but a minute.

5 The first is, I can proceed with the
6 cross-examination after running into that problem for a
7 few hours. I don't think I can proceed for several
8 days, nor do I think intervenors can follow me with
9 cross-examination before the issue is resolved if it
10 appears to be serious.

11 Secondly, Mr. Campbell talks about
12 notice, I think he probably forgets who I act for, No.
13 1, and the fact that my client has notice, and I guess
14 all of the members of my client have notice which
15 probably includes virtually everybody we are talking
16 about, and secondly every party to this hearing already
17 has notice of this. And thirdly Mr. Campbell has known
18 about this for weeks and they were quite in a position
19 to provide all these people with notice that it was an
20 issue if they wanted to. I think it doesn't lie in his
21 mouth now to say, oh, surprise.

22 MR. B. CAMPBELL: It's not my motion.

23 THE CHAIRMAN: We don't need to get into
24 a debate about that, there was a number of factors
25 involved with that. Let's go on with the

1 cross-examination.

2 MR. SHEPHERD: One other preliminary
3 comment. In the past we have tabled all of our
4 exhibits up front, with greater or lesser success. We
5 are not going to do that this time, partly because they
6 are not all ready yet, but more because we are not yet
7 sure which ones we are going to have to end up using
8 and so we thought it would be much more convenient
9 rather than having to rip things out of a binder, to
10 table them as they are needed.

11 None of them are of lengthy enough to be
12 a problem that way. They are all one page or two
13 pages, and as soon as we know they will be filed, we
14 will get them in so that the witnesses have a chance to
15 read them.

16 The issue is not surprise here; it is
17 simply convenience for everybody.

18 Finally, I would like to introduce Dr.
19 Jan Hamrin who is seated beside me. Dr. Hamrin is
20 IPPSO's main expert on policy issues relating to
21 independent power. As the founder of the Independent
22 Energy Producers in California and of the National
23 Independent Energy Producers covering all of the U.S.,
24 she has had more involvement in independent power
25 policy than any other single individual in the world.

1 Her expertise has often been recognized, and in Ontario
2 she was on the Electricity Planning Technical Advisory
3 Panel which has been referred to a number of times in
4 this hearing.

5 I couldn't resist the CV.

6 MR. SHEPHERD: I would like to start,
7 witnesses, by looking at the benefits of independent
8 power.

9 I guess I should say at the outset that
10 all of my questions in this cross-examination are
11 intended to be directed to Mr. Vyrostk, so unless I
12 specifically state otherwise which I will in a couple
13 of cases where issues come up, I would appreciate it if
14 you would deal with these questions as being directed
15 at Mr. Vyrostk. The practice here has been, I think I
16 am stating it correctly, that the witness who is asked
17 the questions answers and then other witnesses can of
18 course add something and we are most interested in what
19 you have to say. So I don't have to say every time
20 this is for Mr. Vyrostk, just assume that, please.

21 To assist with this --

22 MR. B. CAMPBELL: Just a moment. I
23 assume just so the witnesses know, if Mr. Vyrostk
24 having dealt with it or he feels that someone else is
25 in a better position to deal with it, he should so

1 indicate or the additional witnesses who can bring
2 their particular expertise to bear on that matter,
3 should add that to the topic being discussed.

4 MR. SHEPHERD: Isn't that what I just
5 said?

6 MR. B. CAMPBELL: Sometimes I like to say
7 it in my own words to make sure I have got it right.

8 MR. SHEPHERD: To assist with the
9 introductory part of this cross-examination, we would
10 like to file our first exhibit which has been provided
11 to the panel. It hasn't been provided to counsel, but
12 it has been provided the Board, which is entitled, "The
13 Role of Independent Power". I wonder if we could get
14 an exhibit number for that.

15 THE REGISTRAR: This one will be 324.

16 MR. SHEPHERD: Thank you.

17 ---EXHIBIT NO. 324: "The Role of Independent Power",
18 dated May 28, 1991.

19 CROSS-EXAMINATION BY MR. SHEPHERD:

20 Q. Mr. Vyrostko, could you please
21 identify this document?

22 MR. VYROSTKO: A. I believe the document
23 represents the overheads I used in a presentation I
24 made to the Municipal Electric Association at the
25 summer conference earlier this summer.

1 THE CHAIRMAN: Did you say this summer?

2 MR. VYROSTKO: Yes. In fact, the date on
3 here is May 28th.

4 MR. SHEPHERD: Q. Actually, just before
5 we get into this, perhaps as an aside I could just ask
6 you whether it would be correct to say that the
7 cooperation and assistance of the municipal utilities
8 is as important to Hydro in the independent power area
9 as it is in the demand management area as we heard
10 evidence on earlier.

11 MR. VYROSTKO: A. I can't answer the
12 question with regard to making a call whether it's
13 equally as important.

14 We see the role of the utilities as being
15 important for us because a lot of the customers there
16 are the cogenerators, the steam users. And so,
17 therefore, as I mentioned in direct evidence yesterday,
18 our regional customer service people are out there
19 dealing with customers, or, in many cases, the utility
20 reps are dealing with customers, must know the
21 advantages of cogen.

22 So, therefore, I would think that as we
23 have said, the utilities do play an important role, but
24 I can't decide whether it's equal or less than --

25 Q. Fair enough. You didn't actually

1 refer to the involvement of municipal utilities in your
2 direct, did you?

3 A. No, I did not. I just referred to
4 our customer service reps.

5 Q. My recollection is that Ms. Fraser,
6 in Panel 4, said with respect to municipal utilities
7 that their involvement is - and this is her phrase and
8 I am going to ask you whether it applies to independent
9 power as well as - critical to the delivery of
10 successful demand management programs. Is it fair to
11 say that's true also of independent power?

12 A. I don't think so.

13 Q. No? Why is that not true?

14 A. A couple of reasons why I would think
15 it's not true is that the number of customers that in
16 fact fit within a category of non-utility generator are
17 much smaller than customers who fit under the category
18 of demand management. In essence, virtually everybody
19 has the opportunity for demand management, and the way
20 I see our program right now, everybody doesn't have the
21 opportunity for non-utility generation. So that is one
22 reason, I think the people who can in fact have access
23 to the opportunity.

24 Secondly, is that there are choices.
25 The utility can in fact either be part of the process

1 and say we would like to either buy the electricity
2 ourselves, or they can turn around and say, "We are
3 prepared, because of our expertise, not to be involved.
4 Please go ahead to Ontario Hydro and negotiate directly
5 with them." And, in fact, up until now most of the
6 projects have been like that.

7 [11:08 a.m.]

8 So, I don't think that they're a critical
9 element. They're important but they're not critical.

10 Q. The municipal utilities have a veto
11 on any project in their area; right?

12 A. They have first rights of refusal.
13 In other words, they have the first rights to buy that
14 electricity and, therefore, if they don't want to, they
15 have in the past always turned it over to Ontario
16 Hydro.

17 Q. Still on this side issue, is it as
18 true in respect of independent power as it is in the
19 area of demand management that there is a level of
20 ambivalence in the views of the municipal utilities to
21 this area. I'm quoting again from Ms. Fraser.

22 A. Again, I wouldn't want to use those
23 words. I think what I would suggest, that there are
24 many utilities that are not aware of non-utility
25 generation, what it is all about, the benefits it has

1 to some of its customers and, therefore, from a
2 technical perspective they are not informed on the
3 issue.

4 But to suggest that they are ambivalent,
5 I can't say that.

6 Q. Well, isn't it in fact true, Mr.
7 Vyrostk, that with the exception of a few progressive
8 municipals, the municipal utilities see independent
9 power as nothing more than a nuisance that will do them
10 more harm than good. Isn't that, in fact, what they've
11 said to you on many occasions?

12 A. I don't believe that's correct.

13 Q. That's not true. So that it is also
14 not true that you have been engaged in a running battle
15 with the municipal utilities over their acceptance of
16 non-utility generation; that's not true either?

17 A. Again, running battle, I'd say that
18 that's not true. But I would suggest that we are
19 working with the utilities to help them understand what
20 non-utility generation is all about, to help them
21 understand that non-utility generation not only
22 benefits the system in total but indirectly benefits
23 them because they're a part of the system and that, in
24 fact, if it's a cogen opportunity within their
25 municipal utility franchise, it has benefits because

1 it's customer driven.

2 But to suggest they're battles, no,
3 they're discussions to try to bring those people into
4 the same awareness state as other people with regard to
5 the industry.

6 Q. Do you get resistance from
7 municipals -- I can't even say the word.

8 A. Yes, we've had some resistance with
9 some utilities.

10 Q. Mr. Vyrostko, you have in your
11 possession a copy of the latest draft of the Municipal
12 Electric Association's still secret official policy on
13 independent power; is that correct?

14 THE CHAIRMAN: There's a lot of
15 editorializing in there.

16 MR. SHEPHERD: Q. You can tell me any
17 part of the question is wrong, if you wish.

18 MR. VYROSTKO: A. Well, I guess secret
19 is wrong.

20 Q. Okay. Has it been -- it is now a
21 public document?

22 A. No, I believe it's still a draft
23 document and I believe that that document was
24 distributed to all the utilities at that summer
25 conference and, therefore, anybody who was at the

1 summer conference would have access to that document.

2 Q. All right. And, in fact, that draft
3 was going to be released in September; wasn't it, but
4 the chairman's speech changed that?

5 A. I can't comment on that. That's the
6 MEA policy, I wouldn't know when it's going to be
7 released.

8 Q. Well, don't you sit on their
9 subcommittee on independent power?

10 A. I only sit on the committee. The
11 process after the committee puts forward a draft
12 document, the process and timing of approval through
13 the MEA organization is not my responsibility.

14 Q. Would you say that that current draft
15 would show an ambivalence towards independent power?

16 A. No, I wouldn't say that.

17 Q. Well, I wonder if you could undertake
18 then, since everybody else seems to have it, to table
19 that document?

20 MR. B. CAMPBELL: Mr. Chairman, I think
21 this is the same problem we ran into with Mr.
22 Grenville-Wood.

23 I do not believe it's appropriate to ask
24 Ontario Hydro to produce documents that are in draft
25 stages in other organizations about which Ontario

1 Hydro, through any mechanism, is asked to participate
2 and comment on the development of that draft.

3 I just believe it's entirely
4 inappropriate and Ontario Hydro is not willing to give
5 that undertaking.

6 MR. SHEPHERD: Mr. Chairman --

7 THE CHAIRMAN: Let me just, first of all.
8 You don't have the document, I take it?

9 MR. SHEPHERD: No, we do not.

10 THE CHAIRMAN: You do not have the
11 document.

12 MR. SHEPHERD: No, but Mr. Vyrostkco does
13 deny that it's a secret document. I assume he can't
14 say it's confidential after that.

15 MR. CAMPBELL: Well --

16 THE CHAIRMAN: He says if a document was
17 distributed at a conference to everybody who was
18 there -- perhaps Mr. Watson will get you the document,
19 he's sitting there. He'll give you the document.

20 MR. WATSON: Mr. Chairman, I have to find
21 out exactly what document Mr. Shepherd is talking about
22 and talk to my client about it. Perhaps we can discuss
23 it at the break or at noon hour.

24 THE CHAIRMAN: All right, let's leave it
25 that way.

1 MR. SHEPHERD: Okay. Sorry for the
2 digression. I didn't expect to take so long on that.

3 Q. Let's go back to your slide
4 presentation. If you look at the first page that says
5 Non-Utility Generation on it, all right, the first
6 slide, I guess this is like the outline of what you
7 plan to talk about; right?

8 MR. VYROSTKO: A. Yes.

9 Q. The thing that strikes me, Mr.
10 Vyrostko, is these five questions seem to be pretty
11 rudimentary given that you're talking to an audience of
12 professionals in the summer of 1991.

13 Do the municipal utilities even today
14 know that little about independent power that you have
15 to go through the basics?

16 A. To some extent, yes.

17 Q. Is that a problem, is that a problem
18 you have to deal with?

19 A. I wouldn't characterize it as a
20 problem. Let me explain, that there's over 300
21 municipal utilities in the province and with any given
22 issue some of those utilities are much further ahead
23 than others, whether you're talking about demand
24 management programs, whether you're talking about
25 non-utility generation programs, whether you're talking

1 about their expertise with regard to transmission
2 facilities or whatever.

3 So, any time you want to discuss an issue
4 with the utility, you could be, in fact, dealing with a
5 utility that is very informed about it or one that's
6 very little informed about it.

7 And because I had never spoken to the MEA
8 on non-utility generation, this was my opportunity to
9 try to cover off the general information needs for the
10 utilities across the board of all utilities.

11 Q. So that the first time MEA members
12 heard from you formally was in 1991?

13 A. The total membership.

14 Q. Yes.

15 A. Yes.

16 Q. Was this year? Okay.

17 THE CHAIRMAN: Well, I hesitate to
18 interrupt, but it occurs to me that even this panel,
19 who has had the benefit of DSP and all, had to get some
20 rudimentary basic foundation information yesterday in
21 order to appreciate the other things that were going to
22 be said.

23 But, more importantly, let's assume,
24 without commenting on it, that the Municipal Electrical
25 Association is dead against NUGS in every respect, what

1 has that got to do with the cross-examination of this
2 panel; that's what I'm having some little difficulty
3 with.

4 MR. SHEPHERD: Mr. Chairman, my next few
5 questions will make that clear, I think.

6 THE CHAIRMAN: All right.

7 MR. SHEPHERD: Q. Mr. Vyrostk, is it
8 fair to say that the majority of the industrial steam
9 hosts in the Province of Ontario are in the municipal
10 PUCs districts?

11 DR. CONNELL: I'm sorry, I couldn't
12 understand your question. Could you repeat it.

13 MR. SHEPHERD: Q. The majority of the
14 steam hosts -- industrial steam hosts in the Province
15 of Ontario you could put cogeneration plants are in the
16 districts run by the PUCs, the municipals?

17 MR. VYROSTKO: A. That's correct.

18 Q. And is it true that you can't deal
19 with people who want to cogenerate at those sites
20 unless you have the consent of the municipal; is that
21 your current policy?

22 A. We can deal with the actual customer
23 and some of the issues associated with the customer
24 through a couple of different ways.

25 One is that a number of our regional

1 customer energy services representatives, in fact, do
2 call upon customers within utilities as an established
3 relationship with the utilities, and so those
4 representatives, as they're out there dealing with the
5 actual steam user, the customer, can be talking about
6 cogeneration.

7 So, the utility itself is not the only
8 person that would talk to an industrial customer within
9 the utility.

10 Q. I wasn't talking about marketing
11 though, I was talking about buying power, Mr. Vyrostko.
12 You can't buy power from a cogenerator in any town in
13 this province that has a PUC unless the PUC consents;
14 is that not your policy?

15 A. That's correct.

16 Q. Is it not also true that the vast
17 majority of institutional commercial and residential
18 cogeneration opportunities, to the extent that they
19 exist in this province, are in the PUC districts?

20 A. That's correct.

21 Q. Same rule as to consent?

22 A. Let me, again, digress for a minute
23 here. There are two ways that the project can, in
24 fact, be incorporated, we talked about that yesterday;
25 purchase generation or load displacement.

1 We can't buy the electricity from that
2 customer without the consent of the utility, but
3 there's nothing to stop the customer and the utility
4 establishing a load displacement project.

5 Q. Can you pay an incentive to deal with
6 the difference between avoided cost and lost revenues
7 to somebody in a municipal utility PUC if the municipal
8 utility objects?

9 A. If they object we can't.

10 Q. All right. Where am I here.
11 Non-utility Generation, the next page is the famous
12 definition that we've talked about a number of times;
13 that is, basically any generation in Ontario not owned
14 by Hydro; right?

15 A. Yes.

16 Q. Is non-utility generation. Do I
17 understand your evidence yesterday to be that it
18 doesn't include any more of this category you call
19 major supply NUGS, or are they still non-utility
20 generation just treated differently?

21 A. Major supply NUGS are non-utility
22 generation.

23 Q. They're still in the definition?

24 A. That's correct.

25 Q. So you haven't changed the

1 definition?

2 A. That's correct.

3 Q. I take it this includes generation
4 owned by municipal utilities?

5 A. That's correct.

6 Q. And, in fact, you're encouraging that
7 right now; aren't you?

8 A. We are encouraging that, yes.

9 Q. And I take it, it also includes
10 non-utility generation owned by regulated utilities,
11 the few private regulated utilities still in existence
12 in Ontario, like Great Lakes Power?

13 A. That's correct.

14 Q. And, in fact, you just added a
15 project to your NUG list that is built by a regulated
16 utility; haven't you, Magpie?

17 A. We added that last year.

18 Q. Yes, well

19 THE CHAIRMAN: I'm sorry, what was that
20 one.

21 MR. SHEPHERD: A project, 43 megawatts, I
22 believe, on the Magpie River, Great Lakes Power
23 Development.

24 Q. So, what you call non-utility
25 generation isn't really non-utility at all; is it?

1 MR. VYROSTKO: A. Well, if you go by the
2 definition, non-utility generation is generation in
3 Ontario not owned by Ontario Hydro.

4 Q. But it includes lots of utilities?

5 A. Municipal utilities, but not Ontario
6 Hydro.

7 Q. Well, and regulated private
8 utilities?

9 A. Yes.

10 Q. Does it also include gas utilities?
11 Is Centra Gas a regulated gas utility, Mr. Vyrostkco?

12 A. Yes, they are.

13 Q. Are they a non-utility generator?

14 A. Yes, they are.

15 Q. Now, is it true that the benefits of
16 generation owned by regulated utilities are not the
17 same as the benefits of generation owned by profit
18 motivated private entities?

19 A. Benefits to who?

20 Q. Well, any of the benefits, to Hydro,
21 to the people of Ontario?

22 A. I would think that some of the
23 benefits associated with non-utility generation could
24 cover off ownership with any of those different
25 players.

1 Q. Fair enough. So some of the benefits
2 are the same whether it's a utility or a private
3 company that owns the facility; correct?

4 A. That's correct.

5 Q. Are some of the benefits not the
6 same?

7 A. They could be.

8 Q. Are there some benefits that you
9 don't get with regulated utilities owning facilities?

10 A. I would think if a regulated utility
11 weren't building a plant using waste fuel, for
12 instance, then you wouldn't get the benefits of that
13 type of environmental project because they obviously
14 wouldn't build that.

15 Q. Why wouldn't they build that?

16 A. Well, I said if they wouldn't -- if
17 they didn't build that.

18 Q. No, I'm asking a generic question,
19 Mr. Vyrostkco.

20 A. A generic question. I would think
21 that the regulated utility should be able to have the
22 same benefits as any other one in a non-utility
23 generation project.

24 [11:21 a.m.]

25 Q. So, for example, one of the benefits

1 of non-utility generation, isn't it that the ratepayers
2 don't have a risk of cost overruns and things like
3 that?

4 A. Risk off-loading is a benefit, yes.

5 Q. Yes. But if it is a regulated
6 utility like a PUC, that is not true, is it?

7 A. It is true to Ontario Hydro.

8 Q. Well, but, we weren't talking about
9 Ontario Hydro. We were talking about the ratepayers.
10 Their ratepayers eat the cost overrun, don't they?

11 A. They would within their municipal
12 utility.

13 Q. Okay. And that is not like a private
14 generator, is it?

15 A. In that heat eats the overruns.

16 Q. Okay. And there's lots of other
17 examples like that operating cost, et cetera, and
18 delays? Those are all risks that the private sector
19 takes that a regulated utility can't by its nature
20 take; isn't that correct?

21 A. I am not sure if I can necessarily
22 say that that is correct in all cases.

23 Q. Well, Mr. Vyrostkco, isn't it true
24 that any utility that has cost passed through
25 pricing -- you know what that is, right?

1 A. Yes.

2 Q. Isn't it true that any utility that
3 has that cannot structurally take a risk? Only the
4 ratepayers take the risk; isn't that right?

5 A. That's correct.

6 Q. So, whenever we talk about risk in
7 the non-utility generation context, is it fair to say
8 that projects owned by municipal utilities or any other
9 utility, it doesn't apply there?

10 When you talk about risk off-loading, it
11 doesn't apply in the case of utilities doing projects;
12 is that fair?

13 A. If the utility themselves were a
14 project developer, it would not apply there.

15 Q. There. Let's go to your --

16 A. Can I just add a point there?

17 Q. Oh, sure.

18 A. Again, when we are talking risk
19 off-loading, if we talk about risk off-loading to the
20 ratepayers and the ratepayers are the utility
21 ratepayer, but at the same time, the one thing that we
22 look for when we are looking at projects is from the
23 Ontario Hydro perspective the same thing, risk
24 off-loading from Hydro's perspective. What we are
25 trying to do is ensure that ratepayers across the

1 province can, in fact, avoid some of the issues
2 associated with non-utility generation.

3 So, even if a municipal utility were to,
4 in fact, put a project in, then all the customers of
5 the province would not see the risks of a project being
6 overrun or delayed or whatever, typically that Hydro
7 would have; the rest of the province would not see
8 that. Only the local utility would have the risks
9 associated with that project.

10 Q. Do I take your statement correctly to
11 be that you believe it is good policy to allow all of
12 the ratepayers to dump a risk on local ratepayers?

13 A. I didn't say that that was a policy.
14 I was just suggesting that when a developer puts a
15 project together, the developer assumes the risks. If
16 the private developer assumes them, it is the private
17 developer that assumed the risk. If the municipal
18 utility does a project, the municipal utility assumes
19 the risk. Again, the rest of the province, in fact,
20 its value of that overall project.

21 Now, if that local utility cannot assume
22 risks through any mechanism but to charge that back to
23 the ratepayer, then that is one of the issues they have
24 to look at when they are looking at the development of
25 non-utility generation.

1 Q. You have a policy position right now
2 that you encourage non-utility generation by municipal
3 utilities; didn't you just say that?

4 A. Our policy is to try to -- we have an
5 initiative that is trying to increase the involvement
6 and the awareness of non-utility generation with
7 municipal utilities.

8 Q. Including building their own
9 projects?

10 A. If that was in the best interest of
11 the utility.

12 Q. Oh, okay. But you haven't
13 considered -- well, let me put it another way: Does
14 that imply then that you think it is a good idea for
15 utilities to build NUGs?

16 A. As a general statement, I can't say
17 that. Some municipal utilities have access to
18 resources or access to assets that, in fact, would
19 create a good opportunity for them to build a facility.

20 But that is not a natural for most
21 utilities. Most utilities may not have the assets.
22 They, themselves, may not have a steam host. They may
23 not have a hydraulic facility within their jurisdiction
24 to develop it.

25 Q. So, it is very site specific?

1 A. It is.

2 Q. So, you haven't looked at -- in
3 developing your policies with respect to municipal
4 utilities, Ontario Hydro's policies with respect to
5 municipal utilities and NUGs, you haven't looked at all
6 at the issue of shifting risks between ratepayers, have
7 you?

8 A. I can't say directly that we have.

9 MR. SHEPHERD: Mr. Chairman, I am going
10 to actually turn back to this exhibit. Maybe that
11 would be a good time for a break before I start that.

12 THE CHAIRMAN: All right. We will take a
13 15 minute break.

14 THE REGISTRAR: This hearing will recess
15 for 15 minutes.

16 ---Recess at 11:27 a.m.

17 ---On resuming at 11:50 a.m.

18 THE REGISTRAR: Please come to order.
19 This hearing is again in session. Be seated, please.

20 THE CHAIRMAN: Mr. Shepherd?

21 MR. SHEPHERD: Q. Mr. Vyrostkco, could
22 you just take your slide show and turn a couple of
23 pages over to the first page headed up "benefits of
24 non-utility generation"?

25 And all I want to do, and I guess maybe

1 similar to what you did in the presentation, is just
2 use it as a visual aid to help us go through these
3 benefits and what you are doing about them.

4 Let's just start with the first one,
5 supply flexibility. You referred to that one
6 yesterday, as well, right? Just briefly describe what
7 you mean by supply flexibility.

8 MR. VYROSTKO: A. One of the issues that
9 we talked about yesterday with non-utility generation
10 is that typically, being smaller projects, they, in
11 fact, have a shorter lead time and a shorter
12 construction time and a shorter design period than the
13 larger utility facility. And, therefore, you can bring
14 them on board much faster than a typical large utility
15 one. And thus, it gives a better fit in the changing
16 needs of the overall system, so ...

17 Q. I actually totally misunderstood
18 that. I thought that you had said in the speech when
19 you were talking about supply flexibility that it meant
20 a broader resource mix; am I misunderstanding that,
21 more different fuels and more different types of
22 technologies?

23 A. Well, I think --

24 Q. I guess I am misunderstanding.

25 A. Well, there is better resource

1 utilization which another one down there that talks
2 about --

3 Q. So, this is shorter lead times,
4 right?

5 A. That would be one of them.

6 Q. Didn't I hear Mr. Snelson say
7 yesterday - and maybe you could confirm this, Mr.
8 Snelson - that the two or three year lead time you
9 consider for cogeneration is net of negotiating time,
10 right?

11 MR. SNELSON: A. Yes, I believe that is
12 what I said.

13 Q. So, if it takes two or three years to
14 negotiate a contract and another two or three years to
15 do the project, then you have a much longer lead time,
16 right?

17 A. Mr. Vyrostk could speak to the
18 additional lead time for negotiating.

19 Q. Mr. Vyrostk, we are going to talk in
20 detail about lead times and about contracting later.

21 But is it generally true that whatever
22 the negotiating time, whether it is a year or two years
23 or three years or whatever, it then is another couple
24 or three years before a project comes on stream?

25 MR. VYROSTKO: A. Yes. The negotiating

1 period has to be added on to the time it takes to
2 construct a facility.

3 Q. Are we in the right range here, one,
4 two or three years?

5 A. Four years. We typically use around
6 four years from the time the project comes in, a formal
7 proposal, to the time it is in service.

8 Q. Is it fair to say that the sort of
9 period you have from first contact with the proponent
10 until contract is currently in the two or three year
11 range?

12 A. Not necessarily. We probably have
13 some at that range and we have also some probably in
14 six months, so it is a wide scope of time period there.

15 Q. Now, you have talked about
16 geographical flexibility. That, I guess, means
17 generation dispersed around the province. That is a
18 system benefit as I heard you yesterday, right?

19 A. That's correct.

20 Q. And that is more true, isn't it, of
21 smaller projects than larger projects; isn't that
22 right?

23 A. No, not necessarily. If you have
24 larger projects that are located where there are loads
25 specifically balanced or matched to that, then there is

1 no reason why that doesn't also give the same value of
2 geographical flexibility.

3 Q. So, it is not the diversity of
4 geographic location that is a benefit; it is the
5 specific location of the project that matters, right?

6 A. No, it is not the specific location.
7 I guess what I am saying is that if you get generation
8 spread around the province, there is advantage to that
9 because it matches -- it reduces transmission
10 requirements. It helps in terms of matching load and
11 generation. And so, both sides and location can help
12 in that overall opportunity.

13 Q. But you have just signed up a 350
14 megawatt combined cycle project, right, one project; it
15 is only one project?

16 A. That's correct.

17 Q. And that is only in one location,
18 right?

19 A. Yes.

20 Q. So, you are not getting any diversity
21 out of that project, are you?

22 A. Diversity with respect to?

23 Q. Geographic diversity?

24 A. Well, relative to the 3,000 megawatts
25 at Pickering, that is some geographic flexibility

1 there.

2 Q. And relative to 350 megawatts of
3 small hydro, it is a lot less diversity, isn't it?

4 A. Yes.

5 Q. So, when I asked you isn't it true
6 that the smaller projects give you more diversity than
7 the larger projects, that is generally true, isn't it?

8 A. Generally true, that's correct.

9 MR. SNELSON: A. Perhaps I can add
10 something there, Mr. Shepherd. The benefits of things
11 being spread around and diverse is one issue. And as
12 Mr. Vyrostkco has said, if generation is spread around
13 and matches load, in the general sense, that will tend
14 to reduce transmission requirements and transmission
15 losses and have the benefits that we have talked about.

16 There is also a question though of size
17 that is being discussed and in terms of and also
18 location; and that is that spreading things around at
19 any particular point in regards to the system,
20 spreading things around will end up with some things
21 being in locations that for the present state of the
22 system are more desirable than others and some that are
23 less desirable than others.

24 So, it doesn't necessarily mean that
25 spreading them around at this point in time is the

1 best, but spreading them around as a long-term strategy
2 is good.

3 Q. Well, okay. I only had one question
4 on this.

5 Do I understand your evidence to be that
6 spreading them around is a benefit to the system as a
7 general principle?

8 A. Over a long period of time, yes. At
9 any particular point in time, spreading them around
10 will result in some locations being more desirable and
11 some less desirable than others.

12 Q. All right. Then you have lower
13 capital and financing costs, Mr. Vyrostko, the next
14 benefit.

15 I assume that doesn't mean lower capital
16 and financing costs to Ontario Hydro.

17 MR. VYROSTKO: A. That is comparing the
18 costs that Hydro would have versus what the private
19 developer would have.

20 Q. So it is just cheaper power?

21 A. It may be cheaper power.

22 Q. All right. In your experience, do
23 the municipal utilities that build projects build them
24 with lower capital and financing costs than you would?

25 A. I can't answer that. I am not aware

1 of whether they are greater or less than.

2 Q. Well, perhaps you could relate your
3 answer then to the small Hydro facility recently
4 brought in service by the Almonte PUC. That is
5 municipal utility in eastern Ontario, yes?

6 A. Yes.

7 Q. And you have a contract with them
8 or -- you have listed them on your list of in-service
9 NUGs, correct?

10 A. Yes.

11 Q. And isn't it true that the capital
12 cost of that project far exceeds both industry
13 standards and Ontario Hydro standard costs for
14 hydraulic?

15 [12:00 p.m.]

16 A. I am not familiar with the elements
17 that project so I can't speak to that.

18 Q. Mr. Brown, are you familiar with that
19 project?

20 MR. BROWN: A. No, I am not. That
21 project proceeded without NUG division assistance.

22 Q. So you were not involved in it at
23 all?

24 A. No, we are not.

25 Q. It's on your list of program driven

1 NUGs, though, isn't it?

2 A. That project has been added because,
3 as I mentioned in my direct, the historical load
4 displacement is 1,200 megawatts and everything that is
5 added to that number is included in our 3,100 figure.

6 Q. So that is a natural NUG?

7 A. It's one of the naturals, so is the
8 Magpie you mentioned earlier.

9 Q. Isn't it true, Mr. Vyrostk, that
10 regulated entities simply don't have the same incentive
11 as private companies to keep costs down and so they
12 don't?

13 MR. VYROSTKO: A. I can't say that is
14 correct.

15 Q. You don't know whether that's
16 generally true?

17 A. No, I don't.

18 Q. Let's go at this a different way
19 then.

20 You said that one of the benefits of
21 non-utility generation is lower capital and financing
22 costs. Dealing just with private companies, why is it
23 that they can build generating facilities cheaper than
24 Ontario Hydro and with lower financing costs?

25 A. For those that can build cheaper than

1 a major utility, one of the reasons why is that they
2 would buy, for instance, off-the-shelf equipment which
3 is sized to their specific project as opposed to the
4 specific system need that a major utility would be
5 looking at.

6 In some cases they, in fact, may buy used
7 equipment as opposed to new equipment, and so therefore
8 they would be taking advantage of the marketplace and
9 the deals that they can buy there.

10 They, in most cases, are much smaller
11 entities and so therefore their overheads are much
12 smaller.

13 As I said yesterday in testimony, Ontario
14 Hydro are a large utility, typically it's almost
15 structured in its expertise and its efficiency is
16 towards larger projects, whereas developers are very
17 lean, they typically don't have overheads, they
18 contract out most of the services that they provide, so
19 therefore they would have lower costs.

20 Q. Ontario Hydro has actually had some
21 direct experience with the private sector doing a lot
22 better than Ontario Hydro head to head, right? For
23 example, the Galetta generating station, are you
24 familiar with that station?

25 A. I am familiar with that station.

1 Q. And isn't it true that it was owned
2 by Ontario Hydro?

3 A. At one point in time.

4 Q. It was sold to the private sector in
5 1984?

6 A. I believe so.

7 Q. Isn't it true that since then it has
8 consistently produced more power with fewer problems
9 and has been able to upgrade, which Ontario Hydro
10 couldn't do, all as in comparison to Ontario Hydro,
11 it's vastly out-performed anything that Ontario Hydro
12 had done with it; isn't that true?

13 A. I can't answer that. I am not aware
14 of that.

15 Q. So, you haven't followed that at all?
16 You are not concerned with that sort of thing?

17 A. Yes, we are concerned with the
18 reliability of non-utility generation. I am not aware
19 of that particular project with respect to the results
20 that you are talking about.

21 Q. Well, I am going to ask this question
22 anyway, you are quite welcome to say you don't know if
23 you don't. Isn't the situation with respect to the
24 Galetta generating station so bad that in 1986 - and I
25 am going to give you a quote here, see if it's

1 correct - this is at a meeting sponsored by the
2 Ministry of Energy on small hydro at Elora Mill
3 attended by many of the people in the small hydro
4 industry, isn't it true that Allan Barnstaple - and by
5 the way, he is your second in command right now; is
6 that correct?

7 A. That's correct.

8 Q. Isn't it try that he said referring
9 to Galetta, "We'll never make that mistake again."
10 Isn't that true?

11 A. That was before my time and I can't
12 speak to what was said in 1986.

13 Q. Can you undertake to find out whether
14 that was the statement he made?

15 MR. B. CAMPBELL: First of all, I don't
16 even know what the mistake is even if the quote is
17 accurate, I don't have a clue what the mistake is that
18 is being talked about. Quite frankly, I am not at all
19 clear how any of this is relevant to this panel's
20 evidence on the development of the NUG industry.

21 It's a statement made in those times by
22 some Hydro employee that my friend is using in some
23 context that I don't even know whether it is correct
24 even if it was made. I just don't think it's relevant
25 or material to the issues before you, Mr. Chairman.

1 MR. SHEPHERD: Mr. Chairman, perhaps I
2 could go to the next couple of questions which should
3 demonstrate the relevance and then we could deal with
4 this.

5 Q. Mr. Vyrostk, is it true that Ontario
6 Hydro owns quite a number of in-service and mothballed
7 small hydraulic facilities in the up to 20 megawatt
8 range, say?

9 THE CHAIRMAN: Did you say in-service?

10 MR. SHEPHERD: In-service or mothballed.

11 MR. BROWN: What is your definition of
12 mothballed?

13 MR. SHEPHERD: Q. It's not operating.

14 MR. BROWN: A. We have small hydro
15 facilities in operation.

16 Q. You have none that are not operating
17 that Ontario Hydro owns?

18 A. I am not aware of any that are not
19 operating on our system.

20 Q. Sorry? I didn't hear you, I'm sorry?

21 A. I am not aware of any small hydraulic
22 facilities that are not in operation.

23 Q. All right. Now, let's just deal with
24 the ones that are operating.

25 Is it true, Mr. Vyrostk, that you have

1 received proposals from a number of private sector
2 developers to acquire small hydro sites and upgrade
3 them.

4 MR. VYROSTKO: A. We have received
5 proposals for that.

6 Q. Is it true that you have since 1986
7 rejected every such proposal?

8 A. I believe we have because we own the
9 facilities.

10 Q. Well, the people wouldn't be asking
11 you to sell them to them if you didn't own them; isn't
12 that right?

13 A. But if we own them then we are
14 operating the facilities, and so therefore, because
15 they are operating, we are currently retaining them for
16 our own use.

17 Q. Why wouldn't you consider a proposal
18 that where a private developers says, I will take this,
19 I will give you a big cheque for it and I will upgrade
20 it so you will have more capacity, why wouldn't you
21 consider that?

22 A. Well, in fact, we have a program that
23 is underway in Hydro that looks at all of these
24 facilities and is looking at what the costs would be of
25 maintaining the facilities and/or rehabilitating the

1 facilities. If, in fact, there was an advantage to
2 turn it over to the private sector, we would be making
3 that decision.

4 Q. Mr. Vyrostkco, is it true that in 1984
5 when Galetta was sold to the private sector --

6 THE CHAIRMAN: Sorry, what is that word?

7 MR. SHEPHERD: Galetta, G-A-L-E-T-T-A.

8 THE CHAIRMAN: Thank you.

9 MR. SHEPHERD: Q. Is it true that in
10 1984 when Galetta was sold to the private sector,
11 Ontario Hydro announced at that time that it was
12 planning to sell quite a number of facilities to the
13 private sector; isn't that right?

14 MR. VYROSTKO: A. Again, unfortunately,
15 I can't answer that.

16 Q. You were involved in the
17 establishment of Ontario Hydro's policy as to the sale
18 of small hydraulic sites?

19 A. I was part of that policy, that's
20 correct.

21 Q. You haven't looked at why you had
22 past policies at all, or even what they were?

23 A. At the time when I was involved in
24 that policy I did not go back and look at that, that's
25 correct.

1 Q. Okay. And you weren't concerned when
2 you helped set that policy, the current policy, you
3 weren't concerned with looking at the one example where
4 you had actually done it to see whether it had been
5 good or bad, that is Galetta?

6 A. What I did look at was to see whether
7 this policy was both consistent with the needs of the
8 industry in trying to develop the industry and at the
9 same time fulfill the needs of Hydro to maximize the
10 facilities they had. The way I interpreted the policy
11 and worked with it was that the thrust that we were
12 taking was positive for the industry.

13 Q. Sorry, it was positive for the
14 industry to refuse to sell your facilities to the
15 private sector, is that what you are saying?

16 A. No, that's not what our policy is.

17 MR. B. CAMPBELL: Mr. Chairman, that is
18 not what the witness said.

19 What the witness said, quite clearly, was
20 that these are all being reviewed and that that
21 decision has yet to be made. I think he said there is
22 a program in place to review those facilities, and that
23 when those were all evaluated, some decisions would be
24 made.

25 It's precisely not what my friend

1 suggests.

2 MR. SHEPHERD: Mr. Chairman, I think Mr.
3 Campbell is the one who has misunderstood.

4 I will ask the question directly.

5 Q. The question is: Is it your current
6 policy that you will not sell small Hydro sites that
7 are operating to the private sector?

8 MR. VYROSTKO: A. And I believe I
9 answered that by saying we have a policy that says we
10 review every site we have. We are looking at the costs
11 of that site and what it would take to rehabilitate it,
12 and for those sites that we feel are appropriate to be
13 turned over to the private sector, we will be doing
14 that.

15 Q. Excuse me just a second.

16 Just two more questions on this, which is
17 again going longer than I expected. No, one more
18 question on this.

19 Am I correct in understanding that since
20 the Galetta sale there have been no sales of Ontario
21 Hydro sites to the private sector; is that true?

22 A. I don't believe so.

23 Q. Let's go to the next page. We have
24 already touched on this benefit, reduced risk. I
25 understand from your direct evidence and what you said

1 just this morning that buying power from independent
2 producers allows Ontario Hydro to lay risks off to the
3 private sector. Things like risk of capital cost
4 overruns, operating expense overruns, production
5 inefficiencies, forced outages, that sort of thing; you
6 can pass those off to the private sector, is that
7 correct?

8 A. That's correct.

9 Q. But isn't it true, Mr. Vyrostk, that
10 in recent contract negotiations with project proponents
11 Hydro has been agreeing to accept risks such as
12 increases in the cost of natural gas, increases in the
13 cost of natural gas transmission, changes in interest
14 rates, et cetera, et cetera; isn't that true?

15 A. Hydro will accept some risk. In
16 fact, if I just step back. In the evidence that I
17 believe I said yesterday, I said negotiating allows us
18 to balance off risks and benefits to both Ontario Hydro
19 and to the project such that the project becomes a
20 viable project.

21 Hydro has accepted risks on the one side
22 with regard to gas pricing, knowing that if the gas
23 prices were not to materialize we would gain all the
24 benefits associated with that. So, there a sharing of
25 the risks and the benefits. As long as that's taken

1 into context with regard to the entire deal, then it's
2 something that is perceived to be of value to both the
3 developer and Ontario Hydro.

4 Q. And you accepted risks like interest
5 rates; right?

6 A. I don't believe we have accepted
7 interest rate risks.

8 Q. That's something you won't accept if
9 the developer asks for it?

10 A. I didn't say we won't accept it. I
11 said we haven't accepted.

12 Q. Isn't the reason for that that the
13 only time that Hydro agreed to that, the developer
14 ultimately decided it didn't need it?

15 A. I can't --

16 THE CHAIRMAN: Strange developer who
17 wouldn't take a guarantee on interest rates.

18 MR. SHEPHERD: Well, the witness can tell
19 us whether that's in fact true.

20 Q. Isn't it in fact true, Mr. Vyrostkco?

21 MR. VYROSTKO: A. I am not aware of that
22 specific situation, so to say that it happened as you
23 explained it, I am not aware of that, no.

24 Q. Well, on the big projects, or ones
25 that have usual risk arrangements, don't you look at

1 them?

2 A. Yes, I do.

3 Q. But you never saw anything like that?

4 A. Not that I recall.

5 Q. Isn't it true, Mr. Vyrostko, that on
6 the 90 megawatt Boise Cascade cogeneration project in
7 Fort Frances, if the lumber company that's buying the
8 process heat stops buying it, Hydro has agreed to pay
9 the developer extra power payments to compensate for
10 the loss of steam revenues; isn't that right?

11 A. That's correct.

12 Q. Isn't it true in that case that if
13 you have to make those payments, Ontario Hydro has to
14 make those payments, the total cost to Ontario Hydro of
15 the power from that facility will exceed the avoided
16 cost as it was then calculated; isn't that true?

17 A. I'm not aware of that.

18 Q. Can you undertake to find out?

19 A. I can do that.

20 MR. SHEPHERD: Finally got an
21 undertaking. Is that 322.1?

22 THE CHAIRMAN: 322.1.

23 ---UNDERTAKING NO. 322.1: Ontario Hydro undertakes to
24 provide information about the 90 megawatt
25 Boise Cascade contract.

25 MR. SHEPHERD: Q. Just in anticipation

1 of that, it is your policy, is it not, that Hydro will
2 not pay more than avoided cost?

3 MR. VYROSTKO: A. That's correct.

4 [12:14 p.m.] Q. And is that because Hydro doesn't
5 believe it's in the best interest of the ratepayer or
6 the public interest to pay more than avoided cost?

7 A. That's correct.

8 Q. In the recently announced 110
9 megawatt TransAlta McDonnell Douglas project, that's a
10 cogeneration project in Mississauga; correct?

11 A. Right.

12 Q. You're taking some gas risks there;
13 aren't you?

14 A. Again, I can't speak specifically to
15 that contract. As I mentioned just previously, we have
16 and we will continue to look at gas contracts that --
17 or any contracts that there may be some risks on if we
18 also saw on the other side the benefits coming back to
19 us.

20 And so what we're doing there is managing
21 the risks and the benefits of that project.

22 Q. You just don't know what risks you're
23 taking in the McDonnell Douglas deal?

24 A. Well, I guess I can't talk
25 specifically about any one contract because I think

1 that violates, you know, the confidentiality of any
2 deal that we make with developers.

3 I guess what I'm saying is that there are
4 contracts that we have signed that we have, in fact,
5 looked at the risk and benefits of gas pricing.

6 Q. And you've taken some of those risks?

7 A. Well, you only take -- yes, that's
8 right, we would take the risk if that were to happen,
9 but at the same time, if the situation of gas pricing
10 were not to the happen, then there's a ratepayer
11 benefit that comes to the corporation.

12 Q. What's the amount of compensation
13 that Hydro is paid to take, say, a gas transmission
14 risk? How do you calculate the compensation you're
15 paid to take that risk?

16 You're paid to take the risk; right, in
17 the contract?

18 MR. B. CAMPBELL: I'm sorry, I don't
19 understand the question.

20 MR. VYROSTKO: No, I don't understand it.

21 MR. B. CAMPBELL: Do you mean is there a
22 specific amount that is in cents per kilowatthour?

23 THE CHAIRMAN: He means, what's the
24 consideration for agreeing to guarantee to protect the
25 developer against gas transmission problems.

1 MR. VYROSTKO: Oh, you're talking about
2 gas transmission.

3 MR. SHEPHERD: Q. Any risk, but let's
4 just say gas transmission. You take the gas
5 transmission risk in a contract, you're paid to take
6 that risk; right, the developer pays you to take that
7 risk?

8 MR. VYROSTKO: A. The way we negotiate
9 the contract is that there's an entire element of value
10 that the contract has and that has a certain value, and
11 there is a number of elements that go into the
12 project's costs from the developer's perspective,
13 whether they be the capital costs, whether they be
14 long-term operating costs, whether they be maintenance
15 costs, whether they be fuel costs, and when we look at
16 the contract we look at the predictability of all the
17 pricing of all of those elements in the contract and
18 our objective is to get that contract at or below
19 avoided cost.

20 Q. So you don't value the risk at all?

21 A. So what happens is, in some cases, if
22 to bring that entire project within avoided cost means
23 that in one of those elements there is, let's say,
24 there's a 50 per cent chance of a cost being slightly
25 higher or a 50 per cent of the cost being slightly

1 lower, we take that risk depending on the project
2 because there's an equal chance of us gaining.

3 Q. You take the risk because you could
4 get the benefit on the same thing?

5 A. That's correct.

6 Q. Well, didn't you say that one of the
7 benefits of non-utility generation is risk off-loading?

8 A. That's correct.

9 Q. And the type of risk off-loading that
10 you're talking about there, isn't it risks where you
11 also have benefits attached to them, like, cost
12 overruns; you could also have costs coming under
13 budget?

14 A. But from our perspective that doesn't
15 show up because in the price of the product to the
16 developer, you end up having one price, so if the
17 developer were to, in fact, have a cost underrun, then
18 the value of that goes to the developer, there's no
19 sharing of that.

20 Q. No, I understand that. But in the
21 case of cost overruns, it's to Hydro's benefit to be
22 able to pass off the capital cost risk to the
23 developer; right?

24 A. Yes.

25 Q. And it could be high or low, but it's

1 still a benefit to you to pass it off to them, let them
2 take the good and the bad?

3 A. If they accept it, that's correct.

4 Q. Okay. But in the case of something
5 like gas transmission, you're saying it's not a benefit
6 to you to pass it off to the developer?

7 A. Yes, it is a benefit.

8 Q. Well, if it's a benefit and then you
9 don't take that benefit, doesn't that mean that they
10 should be paying you not to take it?

11 A. Well, I guess what I'm explaining,
12 Mr. Shepherd, is that there's a broad spectrum of
13 elements that go into a contract, and what we're trying
14 to do is get a contract that is at or below avoided
15 cost and maximizes ratepayer benefit, if we can do
16 that.

17 For instance, if there's an opportunity
18 to, in fact, take one of those elements of the contract
19 and show that by assuming both the risks with the
20 developer and ourselves we can get some very good
21 ratepayer benefits out of the project with an equal
22 chance of either one happening, then I think it's to
23 the advantage of the ratepayer to do that.

24 Q. In the marketplace generally, we're
25 not talking about your Hydro contracts now, I'm talking

1 about in the marketplace generally, is it fair to say
2 that where the risk and reward of a particular future
3 uncertain event is shifted from one entity to another,
4 the one taking the risk gets, in addition to the up
5 side as well, generally also gets paid to take the
6 risk?

7 A. I would think that might be a general
8 principle.

9 Q. But Hydro doesn't do that?

10 A. First of all, I said that I think
11 that might be a general principle. I would think that
12 in the private sector there's many cases where people
13 share in risks because of the shared benefits.

14 Q. Okay. So do you offer that same risk
15 sharing to smaller projects, small cogen, small Hydro
16 under 5 megawatts?

17 A. If there was an opportunity for being
18 able to take advantage of that type of development, I
19 would think we would.

20 Q. Have you ever offered that to an
21 under 5 megawatt project?

22 A. I think we do that with our financial
23 assistance program.

24 Q. That's not what I'm asking though.

25 A. Then I'm saying yes, we do.

1 Q. You do.

2 A. Through the financial assistance
3 program.

4 Q. Can you explain how you do it through
5 the financial assistance program?

6 A. For a small Hydro project we have an
7 element called the guaranteed payment of a project and
8 what we would do there is, because of the lack of
9 predictability of the waterflows from year to year, we
10 try to at least help the project along and take some of
11 the uncertainties of waterflows by guaranteeing that we
12 will pay a minimum amount of money to the developer
13 that, in fact, would cover off the financing side.

14 And what we then do is, assume that over
15 the lifetime of the project the waterflow will be as
16 identified in the testing of that site, and what the
17 developer says.

18 And so what we then do is, we will take
19 the risks of that in any given point in time, in fact,
20 continue to give that person a minimum payment that at
21 least pays off the financing.

22 Q. Now, you don't actually take a risk
23 in that case that you'll have to pay more under the
24 contract than the avoided cost; do you?

25 A. Sure we do. If the project were not

1 to, for instance, continue for as long a period as we
2 predict and, for instance, if the project, for whatever
3 the reason, were to close up at the time when there
4 were a number of these payments made, that project
5 would be in a deficit position with us and that's the
6 risk that we would be taking there.

7 Q. Well, we're going to come back to
8 that. But do I understand correctly that the longest
9 you will do that for; that is, pay the fixed payments,
10 is twenty years. Isn't that your policy?

11 A. Yes, there is a time period to the
12 guaranteed payment.

13 Q. You don't know what it is?

14 MR. BROWN: A. The time period is twenty
15 years for the guaranteed payment to go on for a longer
16 period contract.

17 Q. Okay. And isn't it true that small
18 hydro facilities are built to last eighty to a hundred
19 years; isn't that your own evidence?

20 MR. VYROSTKO: A. We have seen projects
21 last that long.

22 Q. My question was: Isn't it true that
23 in general small hydro has a life in the order of
24 eighty to a hundred years? It's in the
25 interrogatories, Mr. Vyrostk?

1 A. If it's there, then it's eighty
2 years.

3 Q. Okay. So you'll take a risk over
4 twenty years, your whole at the end of twenty years;
5 right, it hasn't cost you one more dime at the end of
6 twenty years as long as it lasts that long?

7 A. Right.

8 Q. So you're going to take a risk over
9 twenty years that an eighty year project might end
10 before twenty years; is that the size of it?

11 A. That's correct.

12 Q. That's not the same as your gas
13 transmission risk situation; is it?

14 A. I think it's similar to that, yes, in
15 that there's a measure of risk that we are looking at
16 in what is the value of sharing in that risk for that
17 project to make that project viable and economic within
18 the context of our program.

19 Q. Well, you're talking about value
20 again. Didn't I hear you say that you don't assign a
21 value to taking these risks?

22 THE CHAIRMAN: I don't think he said
23 that. I don't think he ever said that.

24 I think he said that you negotiate these
25 contracts. It's a marketplace negotiation and you work

1 out a deal that keeps within the avoided cost area in a
2 general way, but there are tradeoffs of one kind or
3 another.

4 He didn't use the word tradeoffs, but
5 that's what I took him to mean.

6 MR. SHEPHERD: Q. So is it then true
7 that if you take a risk in a contract you get something
8 else in the contract that compensates you for it?

9 MR. VYROSTKO: A. We would be expecting
10 that, yes.

11 Q. Like a lower price?

12 A. Possibly.

13 MR. BROWN: A. Sorry. Definitely in the
14 case of guaranteed payment, it is a lower price.

15 Q. Okay. But that's only for small
16 hydro; right?

17 A. For hydraulic facilities.

18 Q. That's right. Which are small?

19 A. No.

20 Q. You don't have any big Hydro
21 proposals in front of you right now?

22 A. I can't comment on individual
23 proposals.

24 Q. You can't tell us whether you have
25 any big Hydro proposals in front of you?

1 A. Can you define big, please?

2 Q. Over 20 megawatts?

3 A. Yes, we do.

4 Q. You do. Over 50 megawatts? I mean,
5 come on.

6 A. Yes, we do.

7 THE CHAIRMAN: What's the largest you've
8 got?

9 MR. BROWN: There's a proposal for over
10 170 megawatts.

11 THE CHAIRMAN: All right, thank you.

12 MR. SHEPHERD: Q. Aside from that
13 proposal, is it fair to say that, let's say, 95 per
14 cent of the hydraulic proposals put to you are under 20
15 megawatts?

16 MR. BROWN: A. That's true.

17 Q. What steps do you take in your
18 contractual negotiations to ensure that whatever
19 tradeoff you get for taking a risk, it constitutes fair
20 value for taking the risk; is this just your business
21 judgment?

22 MR. VYROSTKO: A. No, there could be
23 different things that we would do to cover off that.

24 One is, on the one side we would look at
25 a lower price of a project to cover that off, we could

1 look at securing the assets of the project, we could
2 look at security of any type to protect against that,
3 whether it's a letter of credit or whatever.

4 So, there are different situations that
5 we can use to protect against that risk.

6 Q. No, but I guess my question was:
7 What steps have you taken to ensure that the
8 compensation or tradeoff that Hydro gets to take a risk
9 reflects the fair market value for taking that risk;
10 that it's got the right value to it?

11 A. I think that's just a judgment that
12 we make when we're negotiating with the project.

13 Q. The only time that any risk reduction
14 is offered under 5 megawatts is this guaranteed payment
15 thing; right?

16 A. I'm just trying to go in my mind, to
17 some of the things that are there.

18 MR. BROWN: A. I think it's true for any
19 financial assistance option under the financial
20 assistance program.

21 Q. Okay. But things like gas
22 transmission and gas price risk and that sort of stuff,
23 that's not in your financial assistance program, that's
24 just one of the deals you'll make; right?

25 A. That's true.

1 Q. So, none of that stuff goes to the
2 under 5 megs?

3 A. It's included in the purchase rate
4 negotiation.

5 Q. For over 5 megs it's included in the
6 purchase rate negotiation; correct?

7 A. And those wishing to negotiate the
8 contract.

9 Q. Sorry, I don't understand. Try me
10 again on that answer.

11 A. We have a standard rate package for
12 projects under 5 megawatts that are available to all
13 projects of that size. If a developer wishes to
14 negotiate a contract that's outside of that, we are
15 willing to accept it.

16 Q. Oh, yes, of course and in fact they
17 have to do that if they want financial assistance;
18 right?

19 A. Yes.

20 Q. They have to negotiate a specific
21 contract?

22 A. Yes.

23 Q. However long it takes and however
24 much it costs?

25 A. It's his choice.

1 Q. Okay. If they want access to
2 financial assistance, it's not their choice though;
3 right?

4 A. We access the project to determine if
5 we will offer financial assistance and assess its
6 merits.

7 Q. Now, my question is: Can you combine
8 the standard rates so you don't have to negotiate all
9 this stuff and financial assistance?

10 A. No, you can't.

11 [12:29 p.m.]

12 Q. You must have a negotiated contract,
13 correct?

14 A. Yes.

15 Q. Okay. Let's see if we can go on and
16 get through this. Better resource utilization. Now,
17 you expanded upon that earlier. That is fuel diversity
18 and things like that, or is it efficiency?

19 A. It is probably a combination of all
20 of those because the other thing that we are looking at
21 is taking all the resources that are out there, whether
22 it is small hydro, whether it is wood waste, whether it
23 is - whatever the fuels are, and better utilizing all
24 those resources that are available for the production
25 of electricity. And the non-utility generator would

1 typically be able to use some of those whereas Ontario
2 Hydro would not be moving in that direction.

3 Q. Is fuel and technology diversity part
4 of that?

5 A. I would think so.

6 Q. Now, your NUG plan is very heavily
7 dependent on natural gas, isn't it?

8 A. It is.

9 Q. Are we talking something in the
10 neighborhood of 90 per cent of the generation is
11 expected to be natural gas fueled or 85?

12 A. 90 per cent of the cogeneration was
13 determined.

14 Q. No. I am talking the 3100 number,
15 right?

16 MR. VYROSTKO: A. I think it is about 70
17 per cent in total.

18 Q. 70 per cent of the 3100 is fueled by
19 natural gas?

20 A. Yes.

21 Q. Okay. That doesn't sound like very
22 much diversity.

23 Is that what you mean by diversity, that
24 you are getting natural gas now onto the system?

25 A. Well, again, if we are looking at

1 diversity, we talking diversity in the scheme of the
2 entire generation mix in the province and natural gas
3 generation provides diversity with the other supply
4 fuels that are currently being used.

5 Q. Wouldn't you have better diversity if
6 you had a broader range of technology and a broader
7 supply mix within the NUG plan?

8 A. Yes, possibly.

9 Q. Would that be an advantage to Ontario
10 Hydro?

11 A. Again, it may; it also may not,
12 depending on which ones they are and the longevity of
13 those fuels and all of the other potential
14 disadvantages of non-utility generation. I think that,
15 yes, more diversity is good in a generic sense.

16 Q. What concrete actions, if any, are
17 you currently taking or planning to take to attempt to
18 ensure that the independent power option has a broader
19 range of technologies and a more balanced supply mix?

20 A. Well, I think Mr. Brown mentioned
21 that in his evidence yesterday. We have an initiative
22 that we are undertaking to pursue alternate
23 technologies.

24 Q. Okay. Is that the only step you are
25 taking to increase diversity?

1 A. The other step is to - we are taking
2 an initiative to work with Ministry of Natural
3 Resources to facilitate hydraulic site releases so that
4 we can possibly have more opportunities for small hydro
5 projects.

6 At the same time, we have also assisted
7 in the funding of class EA by the Water Power
8 Association again to help to facilitate more small
9 hydro projects.

10 Q. Is that consistent with your plan
11 continuing to drop its projection of small hydro?

12 A. The plan reflects project activity
13 and future industry trends. And currently, the
14 industry trends are that we are getting less projects
15 being developed as a result of the issues that are out
16 there with site release permitting and all of that.

17 What we are trying to do is reverse that
18 trend with some of these initiatives. Whether that
19 happens or not, I don't know. We will see if some of
20 that occurs and then in our next year's forecast, we
21 will start to record those changes.

22 Q. The NUG plan, whether it is '90 or
23 '91 or whatever, the NUG plan is your forecast of what
24 you expect to happen in the future, isn't it?

25 MR. BROWN: A. Yes, it is.

1 Q. So, as of right now, you don't expect
2 any of these actions you are taking, class EA, MNR site
3 release, to increase the amount of small hydro
4 available to in Ontario Hydro; is that true?

5 A. The forecast is based on what we
6 think the industry is going to happen under current
7 situations as reflected in project activity and we are
8 doing our initiatives to make sure that there's minimum
9 barriers in this industry, and my forecast has an
10 element of that in it.

11 Q. Sorry, your forecast is assuming that
12 you will have some impact?

13 A. Yes.

14 Q. So, it would be a lot worse or a bit
15 worse?

16 A. It could possibly be less.

17 Q. Okay. Are those all of the actions
18 you are taking to improve supply mix and diversity?

19 A. We have done special studies at our
20 research centre from time to time on different
21 technologies; as the example of burning rubber tires.

22 Q. Okay. You aren't actually projecting
23 an increase of diversity in your current forecast, are
24 you? If you take a look at where you are getting the
25 NUGs from on a percentage basis, say, isn't it correct

1 to say that the natural gas percentage is going up as a
2 percentage of the total?

3 A. In reference to the 3100, that is
4 true.

5 Q. The last one of these benefits
6 here -- oh, no, we have got -- hold on a second. Now,
7 we have got more. Oh, this is wonderful.

8 The last one of these benefits is
9 improved energy efficiency and you are referring to
10 cogen there, aren't you?

11 MR. VYROSTKO: A. Predominantly, that is
12 correct.

13 Q. And that is because of the improved
14 conversion efficiency which we heard you talk about
15 yesterday?

16 A. That's correct.

17 Q. Do you also find the companies that
18 cogenerate are more likely to introduce demand
19 management measures into their operations?

20 A. I can't answer that.

21 Q. Well, isn't that something that
22 should be important to you in terms of efficient
23 delivery of programs, both demand management programs
24 and NUG programs?

25 A. I think it is important to the people

1 who, in fact, have the interface with the customer
2 which is our regional customer service people
3 because --

4 Q. But it is not important to you in
5 terms of program design or forecasting or anything like
6 that?

7 A. Currently, my mind focuses on the
8 non-utility generation program.

9 Q. Okay. Do you have a knowledge of
10 demand management branch programs that might be used to
11 support cogen as well?

12 MR. BROWN: A. We have a general
13 knowledge. And one of the programs they offer is on
14 high-efficiency motors and we provide information to
15 NUG proponents of that information.

16 Q. And, of course, the audit program,
17 this government audit program, also is a combined
18 thing, isn't it?

19 A. Yes, it is.

20 Q. But aside from that, if they are
21 going out and - that is, the demand management people -
22 if they are going out and selling demand management,
23 you don't have some arrangement with them that they
24 will sell cogen, too -- market it, encourage it?

25 A. Our representatives represent the

1 customer of Ontario Hydro and they are not pushing
2 demand management or NUGs separately. There are no two
3 independent people. It is one person representing
4 Ontario Hydro talking to that customer.

5 They are trained in cogeneration. They
6 are trained in demand management and when they approach
7 a customer, they have both of those options in their
8 back pocket.

9 Q. So, they will have a program to
10 encourage demand management over here and they will
11 have a program to encourage cogeneration over here and
12 they will sell both of them?

13 A. They work with a customer to
14 determine which is viable for his operation.

15 Q. You don't have any joint programs
16 with the demand management branch?

17 A. You already mentioned the government
18 audit program.

19 Q. Except for that one?

20 A. We have a turbo expander program.

21 Q. A turbo expander program? I heard
22 you describe what those were yesterday. I didn't hear
23 you talk about a program. Maybe I just missed it.

24 A. As a temporary measure, they are
25 looking after load displacement turbo expanders for

1 that.

2 THE CHAIRMAN: I am sorry, I didn't hear
3 that.

4 MR. BROWN: In the short term, they are
5 looking at interfacing with the customer in developing
6 load displacement turbo expanders and then are coming
7 back to us with that.

8 MR. SHEPHERD: Q. All right. So, it is
9 part of one of their programs just for convenience?

10 MR. BROWN: A. Just for now, that is
11 correct.

12 Q. Yes, just for now. It is really
13 cogen, so it is really NUGs so--

14 A. Yes.

15 Q. --they can't have it in the end?

16 A. Well, we are working on our own.

17 Q. All right. Isn't it true, Mr.

18 Vyrostko, that the NUG division and demand management
19 branch often see each other as competitors?

20 MR. VYROSTKO: A. No. In general, I
21 don't think we see ourselves as competitors because
22 their focus is on programs that use energy and our
23 program is aimed at people who generate electricity.

24 Q. Okay. Well, perhaps we should look
25 then at small package cogen.

1 Can you describe what small package cogen
2 is?

3 A. To us, small package cogen is a
4 cogeneration system that you can virtually buy off the
5 shelf. There is the equipment that manufacturers would
6 sell in standard sizes and you would just buy the
7 entire piece of equipment and put it into an
8 installation. And small is because they are typically
9 under one megawatt.

10 Q. There is a very big contrast with the
11 sort of 50 or 100 or 200 megawatt cogen you see in
12 industrial; right?

13 A. That is correct.

14 Q. Am I not right, Mr. Vyrostk, in
15 saying that in the spring of 1990, the demand
16 management branch let it be known to you and to others
17 that small package cogen would be included in their
18 savings by design program and incentives totalling \$700
19 per kilowatt would be given to developers?

20 A. That is correct, they initially
21 designed their program that way.

22 Q. And isn't it true that the demand
23 management branch was prevented from proceeding with
24 that when NUG division objected that cogen is cogen and
25 it should be within the NUG division?

1 A. Well, it partly was an objection on
2 our part, but it was basically a definition within the
3 corporation.

4 Q. It had to be resolved, right, who was
5 going to deal with it?

6 A. Yes, that is correct.

7 Q. You are not offering \$700 a kilowatt
8 for small package cogen, are you?

9 A. I don't think we are.

10 Q. Are you offering an incentive?

11 A. Mr. Brown talked about a program that
12 we are looking at with regard to a small package cogen.

13 Q. Which will have some incentives
14 presumably?

15 A. We are still in the draft stage, but
16 I would suspect we will be doing something to see
17 whether we can stimulate the small package cogen
18 program.

19 Q. But it is not going to be anything
20 like \$700 a kilowatt, is it?

21 A. I think it is too early to say yet
22 what level of activity or incentives there might be in
23 that program.

24 Q. Well, I heard your evidence yesterday
25 to be that when you calculate whatever incentives you

1 can give, your internal rules in NUG division are
2 avoided cost less lost revenues, and whatever is left
3 over is what you can play with in terms of incentives;
4 isn't that right?

5 A. For a load displacement project, that
6 is correct.

7 Q. And small package cogen is no --

8 THE CHAIRMAN: Avoided cost less?

9 MR. SHEPHERD: Less lost revenues to
10 Hydro.

11 Q. The customer is saving on their
12 electricity bill, right?

13 MR. VYROSTKO: A. That is correct.

14 Q. And small package cogen is almost
15 exclusively load displacement, isn't it, almost?

16 A. Typically, it would be load
17 displacement.

18 Q. So, your maximum incentive then is
19 going to be that difference, right?

20 A. Yes, that is correct.

21 Q. Maybe you don't know the answer to
22 this, but isn't it true that the demand management
23 branch when they do the calculation, they don't deduct
24 the savings on the electricity bill, do they, when they
25 calculate what incentives they can pay?

1 A. Well, I am not totally familiar with
2 all the elements that demand management have in their
3 programs, so I can't quite speak to specifically what
4 is in there.

5 THE CHAIRMAN: Well, Mr. Campbell, that
6 is the evidence of the demand management panel, that
7 they don't think make that deduction?

8 MR. B. CAMPBELL: That's right. I don't
9 have any dispute with that.

10 MR. SHEPHERD: Q. Mr. Vyrostko, do you
11 know what the no losers test is?

12 MR. VYROSTKO: A. Yes, I do.

13 Q. Isn't your method of calculating
14 incentives for things like small package cogen the no
15 losers test?

16 A. It could be termed as the no losers
17 test, that is correct.

18 Q. And hasn't Hydro taken a policy
19 position in demand management cases that the no losers
20 test is inappropriate and shouldn't be used?

21 MR. B. CAMPBELL: Yes, that is correct.
22 That is the evidence of Panel 4.

23 MR. SHEPHERD: Q. But that doesn't apply
24 to small package cogen?

25 MR. VYROSTKO: A. No, it doesn't.

1 Q. Let's see if we can get through the
2 rest of this stuff before lunch.

3 On the next page you talk about better
4 use of waste fluids and garbage disposal as being
5 benefits of non-utility generation.

6 And those are obviously technology
7 specific things, right?

8 A. That is correct.

9 Q. We don't need to go into those.
10 Then you talk about local economic development.

11 What does that include in your mind? How
12 is that a benefit?

13 A. Well, I think that from our
14 perspective, if a project were to locate in a
15 community, then there is some benefits to that local
16 community and that benefit is there whether, in
17 essence, it is a non-utility generator or even the
18 utility plant.

19 [12:45 p.m.]

20 Any time activity construction or a new
21 plant goes into a community there is some benefit
22 there. And so this is a generic issue. Now, that can
23 apply to a utility or a non-utility generation project.

24 Q. Well, I was looking at all these
25 benefits and all the benefits I see look like they are

1 comparing non-utility generation to utility generation.

2 This one is different?

3 A. I guess when I put these together, I
4 didn't necessarily see those as specifically with
5 non-utility generation. I saw that these are some of
6 the benefits of generation generically.

7 Q. Lower capital and financing costs is
8 utility generation as well? Lower compared to what,
9 Mr. Vyrostko.

10 A. As I said, I said generically these
11 can be applied to utility as well as non-utility
12 generation.

13 Now, if you take the lower capital and
14 financing costs, and clearly that one applies
15 specifically to non-utility generation.

16 Q. And reduced risk, isn't that a
17 comparison between the risk you have in a NUG project
18 and in utility?

19 A. Yes, that's correct.

20 Q. And better resource utilization,
21 isn't that the same thing, diversity?

22 A. No, because, for instance, better
23 resource utilization and/or waste fuels, if a utility
24 were to, in fact, select that technology, those
25 benefits would be there for the utility as well.

1 Q. Isn't it your evidence that utilities
2 like Ontario Hydro don't select that technology and
3 couldn't?

4 A. Typically they don't.

5 Q. Don't, all right.

6 However, do I understand then that you
7 view the benefits, local economic development benefits
8 of NUGs as being basically the same as utility
9 projects, comparable roughly?

10 A. I guess what I am saying is that if a
11 utility were to go into a community to do a project,
12 there would be economic developments and opportunities
13 and benefits to the local community. Labour would be
14 coming in and different things, and that would be a
15 benefit.

16 So, if a NUG goes into a community, then
17 they also provide that same type of local benefit.

18 Q. So, the benefit of local economic
19 development, that's not an incremental benefit of
20 non-utility generation as opposed to utility
21 generation?

22 A. Yes, I don't think so. I think
23 that's more talking about the fact that with
24 non-utility generators, they tend to be going back to
25 another point. They are dispersed and so therefore

1 more communities get an opportunity to have some local
2 economic development.

3 Q. Now, when you in your actual speech,
4 this was a speech you were giving in which you used
5 these slides, in your actual speech you didn't include
6 in the term local economic development any benefit or
7 advantage from local ownership or control of resources,
8 did you?

9 A. Can you repeat that or rephrase that
10 question?

11 Q. When you gave the speech, or indeed
12 now when you described what you meant by it, you didn't
13 include in local economic development any benefit with
14 respect to local ownership or control of resources, did
15 you?

16 A. I didn't specify that right now, no,
17 I didn't.

18 Q. And you didn't specify that in the
19 special either, did you?

20 A. I may not have.

21 Q. Do you believe that local ownership
22 and the control of resources is a benefit to the people
23 of Ontario?

24 A. It could be a benefit.

25 Q. However, when you look at proposed

1 projects, you don't give any advantage or preference or
2 anything else to projects that are controlled by local
3 residents or owned by local residents or have
4 guarantees of local jobs or anything like that, do you?

5 A. No, we do not.

6 Q. So, if First Nation comes to you with
7 a project proposal, you don't see any extra benefit
8 there that you should recognize?

9 A. We haven't to date.

10 Q. Finally here you talk about public
11 and government support. I take that to be sort of a
12 public relations benefit; that is, if the public and
13 the government support this, then Ontario Hydro will be
14 being a good corporate citizen; is that about it?

15 A. No, I don't think so.

16 Q. What does it mean then?

17 A. In direct evidence yesterday both Mr.
18 Snelson and myself discussed the information that went
19 into development of the demand supply strategy. The
20 first element of that was the demand/supply option
21 study, and that's where Ontario Hydro, as they were
22 looking at developing a long-term plan, went around the
23 province to see whether in fact people were interested
24 in Hydro doing more than just major supply, and looking
25 at whether we should be looking at other options. At

1 that time most of the public there, whether it was
2 industry, whether it was utility, whether it was the
3 general public, talked about the fact that renewable
4 resources and cogeneration was a preferred option and
5 something that they would support in pursuing.

6 Q. Well, I guess what I am trying to get
7 at is, why does Hydro perceive that to be a benefit.
8 It's more than public relations then.

9 A. That goes back to all of these other
10 things that we talked about with respect to using
11 renewable resources and cogeneration, the efficiency,
12 the fact that you are in fact taking some resources
13 that are not being used otherwise and somebody comes
14 along and uses them, and typically it would be somebody
15 else because Hydro wouldn't come in and develop small
16 sites, typically they wouldn't go into using wood waste
17 as development and they wouldn't go into a steam host.

18 Q. And when you are talking about these
19 benefits, you were talking to the municipals; right?
20 Were you trying to send a message to them that these
21 were benefits to them as well or benefits that were
22 somehow good for them?

23 A. Well, I was just trying to again
24 raise their awareness of an understanding of what
25 non-utility generation is all about.

1 This presentation that you are referring
2 to I also made to other people who are not municipal
3 utilities. So, in essence, we have talked about the
4 generic benefits that non-utility generation brings,
5 and so, that's the context that I was talking about.
6 It wasn't necessarily at this stage focused to the
7 municipal utilities.

8 Q. It's interesting.

9 So, the other places where you speak
10 would be like members of the public, people with less
11 involvement in the electricity industry, typically?

12 A. They might be more. For instance, I
13 may have given this at one IPPSO conference.

14 Q. Oh, no, I would remember. (laughter)

15 Just the last thing on the benefits, I
16 think it is the last thing, it's not a promise. The
17 last thing on the benefits, I was surprised that in
18 your slides, and I looked all through them, and then I
19 asked some people who were there about your actual
20 speech and they confirmed it, you didn't talk about any
21 of the many environmental benefits of independent
22 power, emission reductions, nuclear waste disposal,
23 transmission impacts, da-da-da-da-da. Did you not
24 think that that was -- I assume you think those are
25 benefits of independent power; is that true?

1 A. Non-utility generation does bring
2 environmental benefits.

3 Q. Did you not think that this would be
4 important to the municipal utilities, the environmental
5 benefits?

6 A. Partly I would have referenced that
7 in the better use of waste fluids and garbage disposal,
8 that the advantage of that, it does help the
9 environment, with respect to, for instance, wood waste
10 not being necessary landfilled but in fact there is
11 clean burn of that.

12 I would have thought I would have said
13 that when I was giving this presentation.

14 Q. So you would have gone through the
15 list of environmental benefits then, of the major
16 environmental benefits of independent power, you would
17 have gone through that in this speech?

18 A. I can't say whether they would major
19 or the majority, but I think I would have said some of
20 them.

21 Q. The purpose of your MEA speech was to
22 in effect sell the concept of independent power and
23 heighten awareness and acceptance of it?

24 A. It was to, in fact, inform the
25 utilities about the value of non-utility generation and

1 to elicit their support in recognizing it down the
2 road.

3 Q. Is it fair to say that there is no
4 particular emphasize here on environmental benefits as
5 part of that selling job?

6 A. There may not be, but that's not
7 because there wasn't any intention to be.

8 Q. In terms of dealing with the
9 municipals, is it fair to conclude that they are going
10 to be more concerned with economic and system issues
11 than they are with environmental issues from their
12 perspective?

13 A. I can't say that. A lot of the
14 utility people who were there were elected
15 commissioners. I think those elected commissioners are
16 very sensitive to the local community and I would think
17 that they would be quite aware of some of the issue
18 from an environmental perspective with that local
19 community.

20 Q. Okay. Just before I leave this, you
21 don't refer here to things like broadening local tax
22 bases or system balancing benefits, or energy security
23 benefits, or any of those sorts of things. Is that
24 just because you had to make the list shorter?

25 A. Again, this was not an exhaustive

1 list.

2 Q. It's not that you don't believe those
3 are benefits?

4 A. That's correct. In specific
5 situations they could be benefits.

6 Q. Okay. Actually, there is one other
7 benefit here. If you can just go down, go a couple of
8 pages on, you have a page that's headed up,
9 "Reliability of NUGs", and you go on to talk about why
10 NUGs are so reliable, and you say they are at least as
11 reliable as Hydro's. I assume that means Hydro's
12 generation; right?

13 A. Typically.

14 Q. Now, I understood your evidence
15 yesterday to be - and I haven't found it in the
16 transcript but I will if you want me to - I understood
17 your evidence yesterday to be that you thought that was
18 one of the problems with NUGs, is reliability?

19 A. I think that if we looked at some of
20 the advantages of non-utility generation, you can,
21 depending on the circumstance, see some of those
22 advantages becoming disadvantages. As an example, as I
23 mentioned yesterday, burning garbage is an advantage as
24 a NUG, but yet here in the province today it's not an
25 advantage, it's a disadvantage because of the

1 perception of burning garbage and what it creates.

2 So again, I think that in any given point
3 in time, some advantages may be disadvantages depending
4 on the situation.

5 Q. Do you think reliability is in
6 general an advantage of NUGs or a concern?

7 A. I think the jury is out with respect
8 to that on all technologies. In some technologies, I
9 think we can say that it's using the same technology
10 and the same equipment as any utility would, so
11 typically it should be the same as a utility.

12 There are other places where there is
13 technology that's fairly new and so there it's not
14 proven. So the jury would be out on that new
15 technology.

16 Q. So the same or less, the same or less
17 reliability than the utility; is that what you are
18 saying?

19 A. Typically that's correct.

20 Q. So all of these things, small
21 projects so less impact if one fails, profit
22 motivation, high operating reliability of gas turbines,
23 those don't represent greater reliability of NUGs than
24 utility projects?

25 A. No. What this transparency or this

1 slide or page is trying to show when I was talking to
2 the industry, to the utilities, was that the
3 non-utility generation is not an unknown activity or
4 unknown opportunity, that there is non-utility
5 generation in the province, in the world really, and
6 that they have and use the same type of equipment as
7 utilities use, and they, because of the fact that they
8 have a bottom line revenue requirement, they would
9 operate that in a reasonable way. And the bottom line
10 message was that therefore these non-utility generators
11 would be no different typically than utility supply.

12 Q. Isn't it true, Mr. Vyrostk, that if
13 you look at all of the NUGs in any of the major NUG
14 jurisdictions in United States, California,
15 Massachusetts, whatever, and you measured their
16 reliability by any of the major reliability standards,
17 that that reliability will be better not only than
18 Hydro's nuclear stations but all of Hydro's fossils
19 stations; isn't that in fact true?

20 A. I understand that there are some
21 areas in, for instance, the United States that have
22 natural gas-fired projects operating at very high
23 reliability, which typically would be higher than the
24 average utility plant.

25 Q. Is it true that the reliability of

1 all NUGs of all technology taken as an average in
2 California where they have 10,000 megawatts of NUGs,
3 isn't it true that that reliability far exceeds your
4 nuclear reliabilities or your fossil reliability?

5 [1:00 p.m.]

6 A. I can't answer that. I don't know
7 that.

8 Q. Mr. Snelson, do you know whether
9 that's true?

10 MR. SNELSON: A. I don't know whether
11 that's true.

12 Q. I just have one other question on
13 that. Mr. Vyrostk, you don't know the answer to that
14 reliability comparison; right?

15 MR. VYROSTKO: A. No, I don't.

16 Q. Is it true that it was on your
17 recommendation that Ontario Hydro uses an 80 per cent
18 reliability factor to model NUGS?

19 A. On the division's recommendation,
20 that's correct.

21 Q. The division that you had?

22 A. That's correct.

23 Q. But you don't know what the
24 comparative reliability of NUGS in the United States
25 is?

1 MR. BROWN: A. I might add, there's very
2 little data in North America on NUGS over the long
3 term.

4 Reliability data that's been obtained to
5 date has been very sporadic or generic. We are trying
6 to get more data to improve that estimate, either
7 outside or inside, and the more information we have,
8 the better we can refine that estimate, but to date the
9 information we have received has supported that number.

10 Q. But you had enough to come up with an
11 80 per cent number at some point?

12 A. Yes.

13 Q. Was that just a guess; is that what
14 you're saying?

15 A. No, it's not a guess. There is
16 information available, but it's very limited.

17 MR. SHEPHERD: Mr. Chairman, that might
18 be a good time for the lunch break.

19 THE CHAIRMAN: We will adjourn until
20 2:30.

21 THE REGISTRAR: This hearing will adjourn
22 until 2:30.

23 ---Luncheon recess at 1:02 p.m.

24 ---On resuming at 2:35 p.m.

25 THE REGISTRAR: Please come to order.

1 This hearing is again in session. Be seated, please.

2 THE CHAIRMAN: Mr. Shepherd?

3 MR. SHEPHERD: Q. When we left off we
4 had just finished discussing this reliability question.

5 Mr. Brown, you said that there was an
6 analysis that you got to that 80 per cent number. I
7 looked around, and I'm just going to ask you to turn to
8 Interrogatory 5.14.33.

9 Do you have that there? It should be --

10 Mr. Chairman, I've provided a package of
11 interrogatories for each member of the Board which I
12 haven't given an exhibit number to, of course, but they
13 are in numerical order so you should be able to follow,
14 just for convenience.

15 THE CHAIRMAN: Which one are we looking
16 at now, please?

17 MR. SHEPHERD: 5.14.33.

18 Q. And the one I'm looking at is marked
19 revision.

20 MR. BROWN: A. Okay.

21 Q. Now, Mr. Brown --

22 THE CHAIRMAN: Before we go on, has this
23 been already mentioned. I think something like it has
24 been mentioned, but whether it's 233, I don't know.

25 MR. SHEPHERD: I don't think so, Mr.

1 Chairman. I think 233 was mentioned, but I don't think
2 33 was.

3 THE CHAIRMAN: You don't think so.

4 THE REGISTRAR: Then that would be 321.9.

5 THE CHAIRMAN: Thank you.

6 ---EXHIBIT NO. 321.9: Interrogatory No. 5.14.33.

7 MR. SHEPHERD: Q. Mr. Brown, does this
8 constitute the full extent of your analysis that led
9 you to the 80 per cent reliability number?

10 MR. BROWN: A. This is our report that
11 was used as input to the reliability indices forecast.

12 Q. Do you have any other material or any
13 other analysis besides this that leads you to the 80
14 per cent number?

15 A. Not at the time this was done.

16 Q. Do you now subsequently have further
17 information?

18 A. We are working on collecting this
19 data.

20 Q. So you don't have any summary of it
21 or anything that we could see?

22 A. I can give some generic information
23 for the year 1980 for NUG results in Ontario.

24 Q. All right. Is that in a written form
25 of some sort? I don't want to take up time in --

1 A. I can give you the numbers.

2 Q. Okay.

3 A. What would you like?

4 Q. Tell me what you've got.

5 A. I have capacity factor.

6 THE CHAIRMAN: Mr. Brown will learn as
7 this panel goes on that you never give the questioner
8 choices.

9 MR. BROWN: For the year 1990, NUG
10 purchase facilities in Ontario hydraulic, the average
11 capacity factor for all purchased hydraulic, 48 per
12 cent; cogeneration, 43 per cent; other thermal, 45 per
13 cent.

14 MR. SHEPHERD: Q. Boy, those are a lot
15 lower than your 80 per cent. Do you know why that is?

16 MR. BROWN: A. We are still trying to
17 find out. There's a lot of teething problems in the
18 cogeneration. These are, for the cogeneration, very
19 new facilities.

20 DR. CONNELL: Could you explain what
21 those numbers are. Are those weighted averages?

22 MR. BROWN: It's weighted by megawatts,
23 it's also the average energy of the year divided by the
24 capacity of each facility.

25 DR. CONNELL: And that would be the sum

1 of all relevant projects in each category for the
2 entire province?

3 MR. BROWN: Yes.

4 DR. CONNELL: Would it include only those
5 that were operational at the beginning of the year?

6 MR. BROWN: No, it includes those that
7 came in-service during 1980 and that was --

8 DR. CONNELL: So you would incorporate a
9 partial figure then?

10 MR. BROWN: Yes.

11 MR. SHEPHERD: Q. Does it include the
12 shakedown period for new facilities? New facilities
13 have a shakedown period before they're operating
14 properly; right?

15 MR. BROWN: A. As soon as they go
16 in-service they're incorporated.

17 Q. Okay. Does this include the old
18 NUGS, the historical NUGS?

19 A. No, we are working on trying to get
20 that information. That will be forward looking. I
21 don't have anything for the past.

22 Q. You don't have any past data on what
23 sort of performance the historical NUGS have had?

24 A. I have information that was published
25 in a 1989 NUG plan on the capacity factor of those

1 facilities.

2 Q. Okay. I'm just trying to understand
3 why these numbers are so low. The cogen number which
4 is, I guess, the most surprising of them, now that's
5 heavily influenced by the two northern power projects
6 which were having shakedown problems; right?

7 A. I don't comment on specific
8 information, but those aren't even in that category,
9 they're not cogeneration projects.

10 Q. The Cochrane and Kirkland Lake
11 projects are not considered cogen?

12 A. They're wood waste, which is other
13 thermal.

14 Q. Oh, okay. So then the other thermal
15 number is going to be influenced by their teething
16 problems?

17 A. Yes, if there were such.

18 Q. Is it true that something in the
19 order of 80 or 90 per cent of your other thermal last
20 year was those two projects?

21 A. That information I don't have.

22 Q. Could you give me a ballpark? We're
23 talking about big projects; right, it's not like you
24 didn't notice them?

25 A. No, I'm fully aware of those two

1 projects.

2 Q. Okay. And are they a very large
3 percentage of your total?

4 A. Yes, they are.

5 Q. One other thing. Do you expect to
6 have a report on the reliability data you're
7 collecting? Do you expect to do some sort of report on
8 it?

9 A. That's my objective for the year
10 1991.

11 Q. Can we have an undertaking to file
12 that when it's done?

13 A. Just so you know the time frame, we
14 do not get the data until about three months after the
15 fact. So it's not going to be until May of next -- or
16 April -- sorry, May/June of next year.

17 THE CHAIRMAN: Is there a current -
18 perhaps I'm coming in late because I couldn't find my
19 interrogatory - is there a current report of this
20 nature now?

21 MR. BROWN: No, there isn't.

22 MR. SHEPHERD: Q. So may I have an
23 undertaking then to provide that when it is available?

24 THE REGISTRAR: 322.2.

25 MR. BROWN: That's no problem. I hope to

1 make it public to other people as well.

2 MR. SHEPHERD: Good.

3 THE REGISTRAR: 322.2.

4 THE CHAIRMAN: 322.2.

5 ---UNDERTAKING NO. 322.2: Ontario Hydro undertakes to
6 provide a report on reliability data.

7 MR. SHEPHERD: Q. At this preliminary
8 stage, Mr. Brown, given you're in the middle of writing
9 the 1990 NUG plan now; right?

10 MR. BROWN: A. That's correct.

11 Q. Well, not exactly right now, but at
12 this time?

13 A. I hope to later.

14 Q. Yes. Can we expect your generic
15 estimates of reliability to go down as a result of this
16 preliminary information?

17 A. There is not enough evidence to
18 support that.

19 Q. So you're going to stay at 80 per
20 cent?

21 A. Yes.

22 Q. We were still talking about this
23 slide show. This isn't about the benefits, but I just
24 want to ask you, Mr. Vyrostk, if you can take a
25 look -- we were on the reliability page, the

1 immediately preceding page is a slide that says
2 Concerns and you, in fact, talked about some concerns
3 yesterday in your direct evidence.

4 Just taking them in order, perhaps you
5 could briefly explain what you mean by project
6 uncertainty?

7 MR. VYROSTKO: A. I think in terms of
8 the first one we're really looking at whether the
9 project will last for the contract period, whether it
10 be twenty years, forty years or fifty years.

11 We don't have enough information on the
12 NUGS that we have to suggest that they will be there
13 and we can count on them for the entire period and
14 that, in fact, they will perform as expected as well
15 for the entire period.

16 So I think what we're saying is that
17 right now there is uncertainty with regard to long
18 term.

19 Q. How is that different from
20 operational uncertainty, then?

21 A. Well, the operational, for instance,
22 in terms of what they perform at, for instance, if the
23 project comes in and says we've got a project here at
24 20 megawatts and we're going to have "x" amount of
25 kilowatthours and winter peak and summer peak and, for

1 instance, we don't know whether in fact they will
2 operate in that way, and because the pricing is
3 determined by the production of the facility, you
4 obviously are expecting them to live up to the way they
5 said they were going to operate.

6 In addition to that slide on the
7 operational is, if they have a maintenance schedule for
8 the project, such that the annual operation will be, in
9 fact, continued through effective operation and
10 effective maintenance, and so one of the things that
11 you're looking for is them to say up front that they've
12 got a maintenance schedule and then, secondly, whether
13 in fact they will live up to that maintenance schedule
14 to protect the integrity of the annual operation they
15 said they would have.

16 Q. That sounds very similar to project
17 uncertainty; is it?

18 A. Well it maybe. They could be one in
19 the same.

20 Q. Okay. You have no concern then with
21 the sort of once it's committed will it actually be
22 built type of uncertainty; is that a concern for you?

23 A. Well, typically that's not a concern
24 because all of the risks are -- and there are no front
25 end payments from our perspective, so if the developer

1 makes a choice to go ahead and build and doesn't build,
2 then the risk that we've lost is if we were, for that
3 period of time, starting whenever the project starts,
4 we were counting heavily on that amount of megawatts
5 and megawatthours.

6 Q. Well, you just signed up a 350
7 megawatt deal. If that one doesn't come through, then
8 you're stuck; aren't you?

9 A. Well, first of all, I would like to
10 clarify something. It's not a signed up deal, it's not
11 a committed project at all.

12 Q. You agreed to the rate and the price
13 terms?

14 A. Yes, we have agreed to -- they have
15 agreed to the rates. Our executive office haven't
16 agreed to them yet.

17 Q. Well, you offered the rates; didn't
18 you?

19 A. Yes.

20 Q. And they agreed to them?

21 A. Yes.

22 Q. But it's not a deal yet?

23 A. I don't represent the executive
24 office in all situations.

25 Q. All right. Anyway, if that one

1 doesn't go ahead, that's a 1994 or something start;
2 right, so if that one doesn't go ahead, don't you have
3 a problem?

4 A. Yes, or we have an opportunity for
5 finding other NUGS to fill that hole.

6 Q. Isn't it true though, Mr. Vyrostko,
7 that the history of NUG development in North America is
8 that from the point of commitment, from the point when
9 there's a deal, it's very rare that projects don't go
10 ahead; right?

11 A. That's not what my information would
12 suggest.

13 Q. You think the opposite is true?

14 A. I think that there are experiences in
15 the United States that show a number of projects did
16 not, in fact, materialize even after they were
17 committed.

18 [2:47 p.m.]

19 Q. Okay. So, the reason why you are not
20 concerned about whether it will show up is because if
21 it doesn't show up, you will be able to fill it with
22 other NUGs?

23 A. That is one of the expectations. And
24 secondly is that it hasn't cost either the utility or
25 anybody in the province anything because there hasn't

1 been any funds released from our perspective.

2 Q. The other sort of upfront uncertainty
3 that is often the case with the utility facilities is
4 how much it is going to cost. You don't have that with
5 NUGs; is that right?

6 A. How much is --

7 Q. You built Darlington and you thought
8 it was going to cost so much; it cost a little more.

9 That doesn't happen with NUGs, right?

10 A. That is the risk off-loading we are
11 talking about.

12 Q. Well, exactly. So, that is an
13 uncertainty you no longer have with NUGs?

14 A. That's correct.

15 Q. Is it also typically true that if NUG
16 projects experience delays, they are shorter and have
17 less impact on you than utility-owned projects?

18 A. I don't understand the question.

19 Q. Darlington had a delay of twelve
20 years?

21 A. Right.

22 Q. NUG projects don't have twelve year
23 delays, do they?

24 A. Typically, I haven't seen any NUG
25 that has a twelve year delay, no. (laughter)

1 Q. In fact, is it fair to say that
2 delays in NUG projects when they do happen, which isn't
3 that often -- perhaps let me stop there.

4 Is it fair to say that NUG projects don't
5 have as many delays as utility projects in general?

6 A. Again, I can't answer that because in
7 the short period that we have been dealing with the
8 business here, we have had some projects that have been
9 delayed with non-utility generation. They haven't
10 been, you know, very long because of the types of
11 delays possibly that they were at, but non-utility
12 generators experience delays as well, so ...

13 Q. Okay. Let's go to operational
14 uncertainty which you have described a bit and I guess
15 it is sort of related to project uncertainty as well.

16 You talk somewhere in this -- where is
17 it -- the page we were just on, reliability of NUGs.
18 You say:

19 Owners revenue profit depends on
20 reliable equipment, strong motivation.
21 The profit motive is a strong motivator
22 for NUGs, right?

23 A. We think so, yes.

24 Q. Okay. Isn't it true that independent
25 power producers only get paid when they produce?

1 A. In general, yes.

2 Q. You have some independent power
3 producers that get paid for not producing power?

4 A. We gave you an example this morning
5 on guaranteed payment.

6 Q. Okay. But that is really only a
7 loan, isn't it?

8 A. No. That is an advancement of
9 performance. What we are saying, what we are really
10 doing there is basically assuming that based on the
11 information received on the project, that that project
12 will, in fact, perform as stated over a long time, but
13 on any given month or any given year because of water
14 fluctuations, they may not.

15 Q. But isn't that structured so that you
16 advance in early years or in bad years and you get it
17 back in good years?

18 A. No. That is the advance payment or
19 front end loading, which is another element of the
20 financial assistance program.

21 Q. Oh, okay. So the guaranteed payments
22 then, you just pay a guaranteed amount and whether the
23 producer produces the power expected is irrelevant to
24 you thereafter?

25 A. I am sorry, what was the last point?

1 Q. Let me come at this a different way:

2 I was under the impression that the guaranteed payments
3 were set up so that you made a projection of what the
4 long-term power production would be and then evened it
5 out and made a guaranteed payment every year in order
6 to help the NUG get financing; isn't that right?

7 A. I believe this morning I said that
8 that is not the way the guaranteed payment works.

9 What we do is we don't make the
10 projection, first of all, of the project; the proponent
11 makes the projection of what the delivery will be.

12 But because of typically banks having
13 uncertainty with regard to water flows, because they do
14 vary from month to month, the bank will not provide
15 adequate financing unless they can feel reasonably
16 comfortable that they will get paid.

17 And so what we have done is we have said,
18 look, one of the ways to do that is we will guarantee a
19 monthly payment that is based on performance over a
20 long period of time, but in any given month, the
21 performance may not be there.

22 We set the guaranteed payment such that
23 it basically covers off the fixed cost of the
24 financing. And if the developer doesn't perform, then
25 that developer owes us money.

1 Q. So it is a loan?

2 A. I don't think it is a loan. I think
3 it is just covering off the risks of performance.

4 Q. Maybe this is semantic. The
5 developer owes you the money, right, if they don't
6 perform?

7 A. That is correct.

8 Q. But that is not a loan?

9 A. Well, if you want to call it a loan;
10 I call it a guaranteed payment process and a deficit
11 part of the performance on a month-to-month basis.

12 Q. Okay. They have to pay that money
13 back by the way?

14 A. That's correct.

15 Q. Okay. Is it not also true that
16 independent producers get paid more for their power
17 when they supply it when you need it rather than when
18 you don't need it?

19 A. That is correct.

20 Q. And if profit is a strong motivator,
21 wouldn't that suggest that they would be more likely to
22 supply it when you need it than when you don't need it?

23 A. Not necessarily. As an example, the
24 bottom-line driver with a cogenerator is a steam load
25 typically. And so, therefore, he would not be looking

1 at the electrical side and saying, I am going to match
2 with the electrical production based on the utility
3 system.

4 The whole purpose of cogen is to match
5 with the steam. And so, therefore, he would be
6 operating to keep track of the steam requirements of
7 that operation.

8 Q. Of course, it is very common that
9 steam load requirements are very similar in timing to
10 electricity load requirements; isn't that right?

11 A. Well, I wouldn't think so.

12 Q. You don't think that is true that
13 there is more steam load during the day, for example,
14 than at night typically?

15 A. No. Typically, if you look at the
16 larger steam users, they are a 24-hour operation.

17 Q. Okay. Assuming there are three shift
18 operations, they are 24 hours, right?

19 A. Well, typically, that is the ones
20 that we have been dealing with.

21 Q. All right. The third of these
22 concerns is political pressures and I couldn't
23 understand that.

24 Are there political pressures against
25 independent power?

1 A. I think when we talk here about
2 political pressures, we are talking about the entire
3 regulatory scene and the fact that if regulations
4 change, some of the cost implications may change the
5 viability of the projects.

6 So, it is the entire spectrum of
7 environmental requirements here in Ontario. It could
8 also be things like -- or in Canada, Class 34 possibly
9 and the elimination of Class 34.

10 Q. We are going to come back to Class
11 34.

12 So, you are talking about things like the
13 ban on municipal solid waste; is that the sort of
14 concern you are talking about there?

15 A. Well, I guess I could just be talking
16 about anything that could change today's situation from
17 an overall perspective to something different, and I
18 would put it under the term 'political'. It could be
19 small 'p' as opposed to large 'P'.

20 Q. Okay. And finally, changing fuel
21 costs, is that sort of related to what you were talking
22 about earlier, operational and project uncertainty?

23 A. Yes.

24 Q. Will they be able to afford to run
25 it?

1 A. That is correct, and the profit
2 motive.

3 Q. So of these things, of these
4 concerns, three of the four are largely, will it keep
5 producing when we expect it to; isn't that right?

6 A. Generally speaking, yes.

7 Q. Have you done any review in the
8 United States of what has happened there in that
9 regard?

10 A. We have looked at the American scene,
11 yes, specifically.

12 Q. And what have you found is the
13 history after a project comes in service; are there a
14 lot of dropouts after that?

15 A. Well, again, I think Mr. Brown was
16 sort of talking about the reliability and the fact that
17 there is not that much information out there yet from
18 our perspective that talks about the reliability over
19 the long term.

20 Q. Well, Mr. Vyrostk, is it true that
21 California has about 10,000 megawatts of non-utility
22 generation?

23 A. That's correct.

24 Q. And that they have been buying it
25 since about 1978 or before?

1 A. Well, again, they probably -- I am
2 not sure when they started; I can't answer that. I
3 know that in the mid-'80s, they were ahead of most
4 other utilities in the acquisition of non-utility
5 generation. Whether they started in '78 or '80 or '81,
6 I don't know.

7 Q. At least a decade; is that fair?

8 A. It is probably ten years, yes.

9 Q. Is it true that there have been
10 virtually no dropouts from the NUG program in
11 California, virtually no projects that have dropped off
12 the system; is that true?

13 MR. BROWN: A. I think that is a
14 technology-specific question. There have been dropouts
15 in California, such as wind projects, solar projects.
16 I believe that cogen have been performing adequately.

17 Q. So you know of some projects in
18 California that contracted to produce power and then
19 stopped?

20 A. That's correct.

21 Q. Okay. Wind and solar projects
22 though?

23 A. Those are the only two I am aware of.

24 Q. It is just two projects you know of?

25 A. Two technologies.

1 Q. Oh, okay. And you know of no cogen
2 projects that have dropped off?

3 A. I am not aware of any.

4 Q. Does that give you comfort, Mr.
5 Vyrostko, that these uncertainties are fairly minor?
6 Is that a fair conclusion to draw?

7 MR. VYROSTKO: A. Again, let me just
8 reiterate what I said this morning. This presentation
9 was dealing with general NUGs. And for instance, when
10 we are talking about operational uncertainty and all
11 that, we are talking about operational uncertainty in
12 general.

13 Some technologies are probably a lot more
14 assured of performance than others and I wasn't
15 specific here with regard to saying one is worse than
16 another with regard to operational uncertainty or
17 project uncertainty. All I was saying, that there are
18 concerns with regard to non-utility generation in
19 general and that is one of them.

20 Q. So then these concerns are basically
21 concerned about wind and solar; am I just leaping to
22 too far on that?

23 A. No. In fact, I didn't say that at
24 all. I said these talk about the general industry and
25 there may be some areas that are less concerns than

1 others, but these are still concerns with the general
2 industry.

3 MR. SNELSON: A. If I can just add
4 something there. I think it would be incorrect to draw
5 conclusions as to the long-term viability of
6 cogeneration projects, many of which are fueled with
7 natural gas, from their experience during a period
8 where natural gas prices have either been falling or
9 stable. And some of the concerns perhaps in the very
10 long term reflect what happens when natural gas prices,
11 perhaps as they may, start to return to levels they
12 were previously at.

13 Q. Is the concern that the fuel costs of
14 a project will go up so much that it won't be making
15 enough money and they will have to close it? Is that
16 the concern?

17 A. In some cases, that may be a concern.
18 Mr. Vyrostkco has, I believe, indicated that we try to
19 protect against that by clauses in contracts and
20 seeking long-term fuel commitments to limit that risk.

21 Q. Well, if you didn't do it, isn't it
22 true that the project's bankers would insist on that?

23 A. I couldn't comment on that.

24 Q. Well, Mr. Vyrostkco, you have seen
25 lots of them.

1 MR. VYROSTKO: A. In most cases, the
2 bankers would try to, I think, protect themselves for
3 their investment one way or the other, whether it is
4 through the interest rate or whatever.

5 Q. So just in general, what happens to a
6 project if the costs escalate, the operating costs
7 escalate? What do you expect will happen?

8 A. The developer would basically assume
9 the additional costs.

10 Q. If the developer doesn't want to?

11 A. Then he closes up the shop.

12 Q. He closes up shop?

13 A. I would think so.

14 Q. And you don't get any more power?

15 A. It depends on the type of security
16 that is in there. In some cases, we wouldn't get any
17 power.

18 If the financier has, for instance, been
19 paid off - let's assume for some reason they are able
20 to get paid off before that happened - then there is no
21 need to -- at least nobody would be looking at carrying
22 on with that project. We would be concerned about the
23 megawatts, but we have no access to it because it is
24 not in the contract. So, in fact, the project is gone.

25 Now, that developer may turn around and

1 sell it and see if he can sell that to somebody else
2 who then can turn around and make it operate.

3 Q. Well, let's just hypothesize you have
4 a \$100 million cogeneration facility and suddenly fuel
5 prices go sky high - they double or something like
6 that - and you are the developer and you are going to
7 have a negative cash flow every year.

8 You are suggesting that the developer
9 could either close it and sit on it or sell it; is that
10 right?

11 [3:00 p.m.]

12 A. Those are possibilities, yes.

13 Q. Why would the developer just close it
14 and sit on it? Isn't that the worst thing to do?

15 A. Depending on what he sees happening
16 over the long term with that investment, he may either
17 want to -- if he feels he can get enough return back,
18 he will continue to operate, to mitigate any losses, or
19 in fact he may turn around and try and sell it again to
20 try to mitigate those losses.

21 But I guess one of the points here, you
22 are talking, you specifically said a cogen.
23 Remembering that the cogen is in the business of
24 producing something, not electricity.

25 Q. Yes.

1 A. So there is an uncertainty with
2 regard to overall economy that I talked about
3 yesterday, that may in fact have that operation close
4 up shop. That pulp and paper industry may in fact just
5 close up because they are not there any more.

6 Q. And they won't produce electricity
7 anymore from that fuel because it wouldn't be
8 cost-effective; right?

9 A. Again, that is a choose that they
10 would make at the time. But we have experienced in the
11 front end part of the project, negotiations with people
12 who in fact had to change their whole approach to a
13 project and basically drop it out of the basket because
14 their economic situation changed.

15 Because a cogen plant isn't there
16 specifically to produce electricity, it's there because
17 of the steam requirement for the steam host, then you
18 have to really ask yourself, what drives the
19 electricity production. The fact it's producing
20 electricity for a utility or because it's matching the
21 requirements with steam.

22 Q. Now remember, Mr. Vyrostko, what we
23 are talking about right now is changing fuel costs. I
24 don't understand and maybe you could explain to me why
25 any developer with an asset there that cost \$100

1 million, or whatever, would say, Oh, my fuel costs are
2 too high, I am going to close it down write it off. I
3 don't understand how that could happen.

4 A. Well, it hasn't happened to us here
5 yet, so I am just speculating as to what might happen.

6 Q. Can you think of a set of
7 circumstances in which a developer instead of selling
8 it and getting something for it, would just write it
9 off?

10 A. I guess I mentioned that in fact that
11 is one of the options that they would look at. They
12 would look at selling it to see whether in fact they
13 can minimize their losses.

14 Q. They could sell it for 50 million,
15 say, and then the purchaser does have okay economics;
16 right?

17 A. Well, if the economics are okay then
18 they can sell it and possibly the new purchaser can now
19 take it over and make it occur.

20 In some case it may not even be economic,
21 depending on how high the price has gone, and the best
22 they might be able to sell for it is the actual assets
23 in the ground and just get money for the assets and it
24 is not a producing plant.

25 MR. SNELSON: A. The simple answer is

1 that if the fuel cost of running the plant, the fuel
2 and operating costs of running the plant without
3 consideration of financing charges is higher than the
4 revenues from the sale of the electricity that would be
5 produced, then you would lose more money by operating
6 than you do by not operating.

7 Q. That's good. So, is it fair to say,
8 Mr. Vyrostkco, that typically the total operating costs
9 including fuel of a cogen facility are in the order of
10 40 per cent of revenues? Are we in the right range
11 there?

12 MR. VYROSTKO: A. It would be at least
13 that, I would think, in some cases.

14 Q. Let's pick a number that you are
15 comfortable with, 40, 50?

16 A. 50?

17 Q. 50, okay. And is it fair to say that
18 fuel costs are somewhere between 60 and 70 per cent of
19 total operating costs typically?

20 A. Yes.

21 Q. Good range?

22 A. Yes.

23 Q. So, that's between 30 and 35 per cent
24 of revenue; right? Revenue is 100 per cent, total
25 costs are 50 per cent, 60 to 70 per cent of that is

1 going to be 30 to 35 per cent of revenues; isn't that
2 right?

3 A. If we are using the 50 per cent,
4 okay, let's say it's 35 on a 50 per cent project.

5 Q. So fuel prices then have to roughly
6 triple before what Mr. Snelson is talking about becomes
7 a problem; isn't that right?

8 A. Again, it depends on the circumstance
9 of the individual project. It could be up to three
10 times; it could be less.

11 Q. But we are talking typical numbers
12 and you have agreed these are typical numbers?

13 A. It could be three times.

14 Q. Okay. Do you know offhand what
15 Hydro's sensitivity analysis on its fuel price band is
16 for three times, that is tripling of the price?

17 A. I wouldn't know that.

18 MR. SNELSON: A. I think you can see
19 that we actually have a forecast of rising fuel prices,
20 or rising gas prices. And the reference was the energy
21 price trends report, which I think was Exhibit 14, and
22 I think you would find that there was a similar trend
23 in the gas prices that are on Exhibit 3, not tripling,
24 but of considerable forecast rate increase.

25 MR. B. CAMPBELL: Mr. Shepherd, if it's

1 of any use, this panel might well not be aware, but I
2 think there was, Mr. Burke spoke to this question of
3 volatility of natural gas price. I believe there was
4 some evidence given on that. But the actual experience
5 with volatility of natural gas prices was given in
6 Panel 1, and if you like, I am sure that can be found.

7 MR. SHEPHERD: Thank you.

8 Q. From your experience, Mr. Vyrostkco,
9 would it be reasonable to assume that the risk that
10 changing fuel costs would produce the sort of result
11 that Mr. Snelson is talking about is very small?

12 MR. VYROSTKO: A. Yes.

13 Q. Very small. Thank you.

14 Aside from that situation, aside from the
15 situation in which you really just can't operate it
16 because the operating costs exceed revenues, absent the
17 value of the capital, aside from that situation, is it
18 fair to say that changes in the operating finances of a
19 project will mean losses to the financier or to the
20 developer or to maybe the gas producers, somebody in
21 the private sector, but they will not mean ultimately a
22 loss to Ontario Hydro or a loss of the power; isn't
23 that right?

24 THE CHAIRMAN: Well, that is two
25 questions, the first is a loss to Ontario Hydro the

1 second one is a loss of the product.

2 MR. VYROSTKO: In the loss to Ontario
3 Hydro I would agree with you. But the loss to the
4 megawatts and megawatthours I can't answer that because
5 I believe that there could be situations where in fact
6 the project would just not operate. At least that
7 would be part of our concerns, that that could happen.
8 Whether it does or not, I can't answer that. But I
9 would have concerns that that could happen.

10 MR. SHEPHERD: Q. Well, we have
11 established, haven't we, that there is a very small
12 risk that total operating costs will exceed revenues;
13 correct?

14 A. Again, you are dealing with the
15 cogeneration project. For instance, if we take some of
16 the more exotic types of projects, that may be a little
17 more of a situation where you just can't carry on and
18 there is nothing else to do but to close the operation.

19 Q. Municipal solid waste perhaps.

20 A. Wood waste, if all of a sudden there
21 isn't wood available because of the operation.
22 Landfill gas.

23 Q. The gas runs out sooner or later.

24 A. Or it doesn't in fact get developed
25 as people would have predicted it to.

1 Q. Of course the reverse is true of
2 small hydro; right? In the case of small hydro there
3 is almost no possibility, isn't it, that they would
4 stop producing; isn't that true?

5 A. I think that there will always be
6 water, so therefore I would think that the producer
7 would continue to produce. Yes, I would think so.

8 Q. And if their economics got out of
9 whack because of financing or whatever, they would just
10 sell it; right?

11 A. I would assume so.

12 Q. That's happened in fact in Ontario,
13 hasn't it, already?

14 A. Yes.

15 Q. All right. So, you have agreed that
16 if these problems happen, there is no financial loss to
17 Ontario Hydro; is that correct?

18 A. Generally speaking, no.

19 Q. If the same problems happen to a
20 facility owned by Ontario Hydro, your ratepayers pay
21 that for that problem; don't they?

22 A. That's correct.

23 Q. That's part of the risk off loading
24 we are talking about?

25 A. That's correct.

1 Q. I am going to leave the MEA speech
2 you will be happy to know, but just one other question.
3 Are there any other material concerns relating to
4 independent power that are not included in what we have
5 been talking about?

6 A. Well, I covered some of them
7 yesterday in direct.

8 Q. Yes.

9 A. So, between that and these, I would
10 think it covers off the majority of them.

11 Q. Okay. When I listened to your direct
12 evidence, Mr. Vyrostko, one thing that struck me and
13 maybe I just missed it, and I am not meaning to be
14 accusatory here, but one thing that struck me is that I
15 didn't hear a statement of the overall goal or like a
16 mission statement of the NUG division. Did I just miss
17 that or was it not there?

18 A. Specifically as a goal statement it
19 was not there.

20 Q. Can you tell us what the goal of your
21 division is?

22 A. I'm sorry, I don't have to look at my
23 material to tell you what the goal is. I was checking
24 my direct to see if I had said it.

25 The goal of our division is to in fact

1 promote and establish maximum economic non-utility
2 generation for the benefit of the province.

3 Q. That's wonderful. I was going to
4 turn up the interrogatory and quote it to you, but you
5 just quoted it exactly. That's excellent.

6 That's your formal goal; right? That's
7 what you are there for?

8 A. That's the division's goal, that's
9 correct.

10 Q. Is there anything else really
11 fundamentally, if you were writing a mission statement
12 for your division, is there anything else really
13 fundamental you should put in that?

14 A. I think one of the other fundamental
15 elements is that all of this has to be within the
16 overall system requirement, effectively integrated into
17 the system.

18 Q. Okay. Is there anything else in
19 terms of the things that you are trying to achieve, the
20 really important things you are trying to achieve, is
21 there anything else that we should be talking about?

22 A. I am not sure. We developed a goal,
23 we tried to use words that would be as long-lasting and
24 as comprehensive as possible. So, to promote and
25 establish to us mean a lot of the things that we have

1 been doing in terms of creating partnerships and
2 dealing with the industry, and in fact trying to ensure
3 that there is an industry in the province that we can
4 rely on to provide us with the non-utility generation
5 that we are expecting for our forecast.

6 Q. Those things are all implementation
7 though, they are not goals; right? Sub goals?

8 A. Yes. But I think the activities,
9 some of those activities such as partnerships and all
10 that is in to remote and establish. So, from that
11 perspective that goal is encompassing a lot of that.

12 But in terms of the mission statement, a
13 mission statement covers off some of the programs and
14 activities that one wants to do and we talked about
15 those yesterday.

16 Q. Is it a fundamental goal of your
17 division to increase Ontario Hydro's supply
18 flexibility?

19 THE CHAIRMAN: Through a NUG program you
20 mean?

21 MR. SHEPHERD: Well, I am asking what he
22 decides what the important things are to drive for, is
23 supply flexibility one of them.

24 MR. VYROSTKO: I think that's part of the
25 corporate strategy, the demand/supply strategy.

1 MR. SHEPHERD: Q. That is part of your
2 goals by --

3 MR. VYROSTKO: A. By the fact I work for
4 Ontario Hydro, that's correct.

5 Q. Is it part of your goal to produce a
6 supply mix with fewer and less severe negative
7 environmental and social impacts?

8 A. I think our objective there is to do
9 whatever is in the benefit of Province of Ontario. So
10 our goal is to do what is important to the overall
11 province.

12 [3:18 p.m.]

13 Q. And you believe that reducing the
14 negative environmental and social impacts of electric
15 generation is something that's for the benefit of the
16 people of Ontario?

17 A. I believe so.

18 Q. So we will hear then about some
19 programs or some policies that you've developed to
20 accomplish that goal within the NUG division?

21 A. I don't think so.

22 Q. You don't have any?

23 A. With regard to non-utility
24 generation, the only policy we have, which is the draft
25 policy we've talked about that was submitted through an

1 interrogatory, is the creating of the awareness with a
2 proponent that the environment is an important element
3 in the overall siting and in constructing of a plant
4 and that that proponent avail themselves of all the
5 appropriate regulations and permits.

6 Q. Is it one of the goals of your
7 division to do to the extent that you can, to
8 accomplish to the extent that you can, the handing back
9 of control over local natural resources to local
10 residents such as native peoples; is that one of your
11 goals?

12 A. Currently it's not a goal.

13 Q. Is it fair to say that the -- I'm
14 going to try and recharacterize this without using
15 loaded words. Is it fair to say that what the NUG
16 division does is essentially an exercise in getting low
17 cost electricity supply; is that most of what you do?

18 A. No. I think the objective that we
19 have, as we've said before, is to build an industry
20 that, in fact, can bring flexible options to the
21 province.

22 In some cases they may be low cost or
23 lower cost than ours, in some cases they're at full
24 avoided cost, but because of all of the benefits that
25 we've talked about, there is advantage to the system to

1 try to bring all that in.

2 So there isn't a single focus that says,
3 it has got to be low cost, lower cost.

4 Q. Well, your rule though; isn't it,
5 that if it's not the same or cheaper than Hydro-owned
6 generation, you won't buy it; right?

7 A. But that's exactly -- I made that
8 point, I said that it has to be at or below our cost.

9 Q. Okay.

10 MR. SNELSON: A. You are, of course,
11 recalling that we do have a 10 per cent preference for
12 certain technologies that are considered to be more
13 socially and environmentally acceptable.

14 Q. I hadn't forgot it, Mr. Snelson,
15 we'll get to it later. I'm now coming to the third
16 heading, in the outline, Mr. Chairman, in case you're
17 following along on the outline.

18 I wanted to talk a bit about Class 34.
19 You've mentioned that in your direct evidence, Mr.
20 Vyrostk. Can you tell us how that works?

21 MR. VYROSTKO: A. I can only tell you
22 very simply how it works because the whole application
23 of that is with the proponent not with us.

24 Our understanding is that Class 34 is an
25 accelerated write-off of the equipment that's used for

1 projects that generate electricity using renewable
2 fuels or cogeneration, and that is a very important
3 element in the economic viability of projects with the
4 proponent.

5 MR. SNELSON: A. I believe the actual
6 income tax regulations for Class 34 were submitted in
7 answer to Interrogatory 5.9.32.

8 Q. Really.

9 MR. SHEPHERD: Should we give that a
10 number, Mr. Chairman?

11 THE REGISTRAR: 321.10.

12 ---EXHIBIT NO. 321.10 Interrogatory No. 5.9.32.

13 MR. SHEPHERD: Q. I'm just guessing, but
14 I'm guessing that most of the people involved in this
15 are not going to have an easy time of understanding
16 Class 34 by reading the regulations.

17 I wonder if we could just have a sort of
18 a brief explanation of the mechanism.

19 MR. VYROSTKO: A. I'm not familiar with
20 that. Again, it's an application by the proponent with
21 the federal government.

22 Q. The responsibility for achieving
23 Hydro's independent power goals falls ultimately on
24 your shoulders; doesn't it, Mr. Vyrostkco?

25 A. That's correct.

1 Q. Will you take a look at the 1990 NUG
2 plan, which is Exhibit 83, page 9.

3 MR. BROWN: A. What page, please?

4 Q. Nine. If you look under the heading
5 on that page, fossil-fueled generation, the second
6 paragraph, it says:

7 "Class 34 CCA write-off is a vital
8 component of any thermal NUG project and
9 this is not available to projects other
10 than cogeneration and waste resource
11 facilities. Without Class 34, and based
12 on assumed purchase rates,
13 fossil-fueled generation does not appear
14 economically viable in Ontario. This
15 situation is not expected to change in
16 the foreseeable future."

17 If I read that right - tell me whether
18 this is correct - without Class 34 eligibility projects
19 aren't viable; is that right?

20 MR. VYROSTKO: A. I thought I just
21 mentioned this in response when I was describing what
22 Class 34 is. I said that I believe.

23 Q. Okay. And if the projects out there
24 aren't viable, then there's no way you can achieve
25 these goals of 3,100 megawatts; is there?

1 A. If we assume that the projects that
2 can't get 34 are the ones that are in the plan for
3 3,100 megawatts, then we wouldn't achieve it, that's
4 correct.

5 Q. You have assumed that the bulk of
6 your 3,100 megawatts is projects that would get Class
7 34; correct?

8 A. That's correct.

9 Q. 70 per cent, 80 per cent, something
10 like that?

11 MR. BROWN: A. 1990 NUG plan, all
12 projects qualified for Class 34.

13 Q. But Mr. Vyrostko, you don't even have
14 a general knowledge of how this works.

15 MR. VYROSTKO: A. Well, it depends what
16 you determine by general knowledge. I explained what
17 it does. It's an accelerated tax write-off and it's
18 applied against the equipment that's used for the
19 project. I'm not sure if I need any more general
20 knowledge.

21 Q. Okay. Well, we'll test that. Is it
22 also true, Mr. Vyrostko, that the NUG division often
23 has to do economic analyses of projects as part of the
24 contracting process; isn't that often what you do?

25 A. What we do is we take the

1 characteristics of the project, apply our avoided cost
2 to that project to determine the affordability limit of
3 that project, and that's what we do.

4 Q. And when you do that economic
5 analysis, obviously you have to include consideration
6 of Class 34; correct?

7 A. No, we don't do that. That's the
8 proponent's responsibility for that assessment.

9 Q. So, when you look at whether a
10 project is economically viable, you don't consider this
11 very important financial element?

12 THE CHAIRMAN: No, he didn't say that, he
13 said that they take the proponent's analysis of it.

14 MR. VYROSTKO: The proponent is
15 responsible for looking at whether the project is
16 technically or economically viable.

17 What we do is, we provide the information
18 in terms of, from our perspective, looking at what
19 value the project has to us, okay, in terms of avoided
20 costs. Class 34 doesn't impact on the avoided cost.

21 MR. SHEPHERD: Q. I thought I saw
22 somewhere - and maybe you can correct me if I'm wrong -
23 that there's a whole list of financial information that
24 developers are asked to give you?

25 MR. VYROSTKO: A. Yes.

1 Q. Isn't that correct?

2 A. Yes.

3 Q. But you don't do anything with that,
4 you don't do any financial analysis with it?

5 A. I think typically what we would be
6 doing is using that information to see whether the
7 project and the proponent have enough sense of the
8 project that the costs and some of the financial
9 indicators are reasonable.

10 The other reason why we ask for that is
11 to ensure that the proponent, when he's submitting a
12 proposal, has considered all the key elements that are
13 necessary to put a project together, so that after they
14 have spent time with us they wouldn't say: Oh, gee, I
15 forgot that I had to think of what my financing is or
16 what my financing costs are.

17 So it's a checklist of being sure that
18 all this information is available.

19 Q. So you don't do a financial
20 feasibility analysis on projects; is that right?

21 A. We do an assessment of the project,
22 of the overall project, as to how it ties in to our
23 avoided costs. In terms of looking at the financial
24 and the profit margins of the project, we don't look at
25 that.

1 Q. So --

2 A. At least, we don't do that. We don't
3 do that analysis at all.

4 Q. Is it typically true that you ask for
5 it from the proponent; ask the developer to provide you
6 with that?

7 A. No, no, I don't think it's typical.

8 Q. So, I'm just looking at page 4 of the
9 supplementary witness statement, which is Exhibit 319.
10 At paragraph 14, the second last sentence:

11 "Promising proposals are subject to
12 more detailed feasibility review and
13 financial evaluation."

14 Is that just the avoided cost
15 calculation; is that all you're talking about there?

16 A. Basically what we're looking at there
17 is to see whether, in fact, the project can match the
18 avoided costs over the period and whether, in fact,
19 there are things that we can do in terms of negotiating
20 the project such that financially either the cash
21 streams or whatever can fit the affordability limits
22 that we have.

23 Q. When you do that, you have to look at
24 the cash stream of the project; correct? Is that what
25 you just said?

1 A. We sometimes would do that, that's
2 correct.

3 Q. And included in the calculation of
4 the cash stream is the Class 34 impact; is that true?

5 A. Depends. Maybe, maybe not. It
6 depends on what the proponent, in fact, has given us in
7 terms of his annual requirements.

8 Q. All right.

9 DR. CONNELL: May I just intervene. Do I
10 understand that the proponent's return on the
11 investment is not material as far as you're concerned?
12 It is conceivable that a NUG project may have a very
13 high return of 40 per cent or something of that order
14 and that would not attract your interest or attention?

15 MR. VYROSTKO: Well, in many cases the
16 return is an important element to the proponent, and so
17 when the proponent is putting a project together,
18 obviously the amount of return that's there is
19 critical.

20 DR. CONNELL: Yes.

21 MR. VYROSTKO: And the question then
22 becomes whether, in fact, that return is sufficient to
23 make a project a viable project.

24 If the proponent walked into our office
25 and put a project on the table that was 15 per cent

1 below avoided costs, I wouldn't be interested
2 necessarily in what the rate of return is on that
3 project because I'm getting a very good ratepayer
4 benefit on that project.

5 DR. CONNELL: See, I misunderstood. I
6 thought you must have some guideline for a fair rate of
7 return and that you would scale back from avoided cost
8 on that basis, but I misunderstood that.

9 MR. VYROSTKO: No, we're not in any
10 position to determine what's a fair rate of return for
11 the proponent. All we can basically say is that here
12 is the project value to us and the proponent then looks
13 at whether that's a fair rate of return.

14 As I said before, if the proponent comes
15 in and says, I can give you this project at this dollar
16 level and it's well below our avoided costs, then
17 that's fine.

18 DR. CONNELL: But if it came right at
19 avoided cost, you would see no reason to try to scale
20 back from that point?

21 MR. VYROSTKO: No. I guess the challenge
22 does become when you get to the avoided cost limit.
23 Most of the projects today are coming very close to
24 avoided cost and so the rate of return is very
25 important to the proponent at that stage because it's

1 now getting at the decision-making perspective.

2 And because of that there is a lot more
3 activity that goes on between us and them to try and
4 now see whether, in fact, we can help that project one
5 way or the other to make a project happen within our
6 avoided cost and still meet his minimum rate of return.

7 So in those cases, where you're looking
8 at marginal projects, now that becomes an issue that is
9 discussed with us and the proponent.

10 DR. CONNELL: But if a proponent appeared
11 to you to have a very inflated view of what might be a
12 reasonable rate of return, you wouldn't call it into
13 question?

14 [3:32 p.m.]

15 MR. VYROSTKO: In general, we wouldn't do
16 that, no.

17 MR. SHEPHERD: I just have a couple of
18 more questions on this, Mr. Chairman. Maybe I can
19 complete them.

20 Q. Mr. Vyrostkco, it is true that on
21 average, on a weighted average basis, the projects you
22 have currently in service and committed are something
23 in the order of 98 per cent of avoided cost?

24 MR. VYROSTKO: A. That's correct.

25 Q. And, I take it, Mr. Vyrostkco, that

1 when the price a proponent wants is close to or on
2 avoided cost, you want to look at the financial
3 information to see whether they need it to make the
4 project fly; is that correct?

5 A. If we sort of go back to yesterday's
6 direct evidence and talk about how we negotiate
7 projects, by the time we are at the stage where the
8 proponent is tabling a project to us at avoided cost,
9 there has been a lot of information that has gone both
10 ways to help that project become a very well designed,
11 a very tight project, so some information would be on
12 the table; whether it is specifically financial, what
13 you are asking, or general financial information, but
14 we would have some information definitely.

15 Q. I put it to you - please tell me if I
16 am correct - I put it to you that if you went into your
17 files of every current project that you are looking at
18 right now or in-service or committed, if you went into
19 your files, I put it to you, you would find that in
20 four out of five, at least, there would be a full
21 financial spread sheet on the project; is that true or
22 not?

23 A. The spread sheet by who, us or the
24 proponent?

25 Q. Either.

1 THE CHAIRMAN: Well, just let's get that
2 clear.

3 Whose spread sheet, Hydro's or the
4 developers?

5 MR. SHEPHERD: At this point it doesn't
6 matter, Mr. Chairman, I will explain why in the
7 subsequent questions.

8 THE CHAIRMAN: Well --

9 MR. SHEPHERD: I mean, I can ask both.

10 THE CHAIRMAN: Ask it one at a time then.

11 MR. SHEPHERD: Okay. Well, there is no
12 way of asking it one at a time. (laughter)

13 I don't know what the percentages are. I
14 don't know how many Hydro does and how many the
15 developers do; I know what the total is.

16 THE CHAIRMAN: I would assume Hydro would
17 do it every time, but we may find that out if you ask
18 them that. For their own purposes, they must have to
19 do a calculation every time.

20 MR. SHEPHERD: Q. Perhaps you could
21 estimate on what percentage of projects has Ontario
22 Hydro done a full financial evaluation.

23 MR. VYROSTKO: A. Less than half.

24 Q. And on what percentage of projects
25 would you think you would have a financial evaluation

1 from the developer?

2 A. A very small percentage.

3 Q. A very small percentage?

4 A. Yes.

5 MR. SHEPHERD: Okay. Mr. Chairman, we
6 might want to take the break now if it is convenient.

7 THE CHAIRMAN: All right, 15 minutes.

8 THE REGISTRAR: This hearing will recess
9 for 15 minutes.

10 ---Recess at 3:36 p.m.

11 ---On resuming at 4:56 p.m.

12 THE REGISTRAR: Please come to order.
13 This hearing is again in session. Be seated, please.

14 THE CHAIRMAN: Mr. Shepherd?

15 MR. SHEPHERD: Q. Mr. Brown, let me just
16 clear up one thing. You said when we were talking
17 about reliability I guess, that you were aware of
18 projects in California, wind and solar projects that
19 had failed and stopped producing.

20 I wonder if you could just undertake to
21 provide us with a list of those that you are aware of,
22 just ones you are aware of.

23 MR. BROWN: A. The information I
24 received was just from a tour of the facilities. I
25 just saw the windmills not moving and I was told by the

1 tour guide that these have now been closed down. I was
2 also told that PV facilities set up for the United
3 States was being removed and all the panels were being
4 sold to other people to use.

5 Q. Do you know who owns that PV
6 facility?

7 A. Many people now. (laughter)

8 Q. That is the one at Clarissa Plains,
9 right?

10 A. I am not aware of the name, no.

11 Q. Do you know who owns it?

12 A. Who used to own it?

13 Q. Yes.

14 A. No.

15 Q. I put it to you that it is owned by
16 PG&E. Do you know who PG&E is?

17 A. Pacific Gas and Electric.

18 Q. And who are they?

19 A. A private utility.

20 Q. They are a regulated utility
21 comparable to Ontario Hydro in that area, aren't they?

22 A. I don't know if they are comparable,
23 but they are a utility.

24 Q. Okay. They are not a NUG?

25 A. They are in private power.

1 Q. Sorry, is your evidence that Pacific
2 Gas and Electric is a private power producer? Is that
3 your evidence?

4 A. They are looking to take NUG
5 opportunities themselves.

6 Q. And so if they build a facility in
7 their service territory --

8 A. I didn't mean that.

9 Q. Oh, okay. And this PV project - and
10 I am going to ask you to check this and see whether it
11 is correct -- if it is in their service territory, is
12 it correct to say that it is then not a NUG?

13 A. That's correct.

14 Q. I wonder if you could undertake to
15 provide the details of the information that you are
16 giving now, what projects we are talking about and who
17 owns them.

18 THE CHAIRMAN: There are just two, as I
19 understand it; one was a wind project and the other was
20 a solar project?

21 MR. SHEPHERD: Q. Could you undertake to
22 find that out, when you have a chance, not tomorrow
23 morning?

24 MR. BROWN: A. It would take some time.

25 MR. SHEPHERD: That is fine.

1 THE REGISTRAR: That is 322.3.

2 MR. SHEPHERD: 322.3? Thank you, Mr.

3 Chairman.

4 ---EXHIBIT NO. 322.3: Ontario Hydro undertakes to
5 provide the details of the information
6 on the wind and solar projects and who
owns them.

7 MR. SHEPHERD: Q. We were talking about
8 Class 34.

9 You are familiar, Mr. Vyrostko, with the
10 heat rate rule in Class 34?

11 MR. VYROSTKO: A. Yes, I am.

12 Q. And what is that rule?

13 A. In essence, it says that if the
14 facility can get down to a heat rate of 7,000 btu per
15 kilowatthour, it would qualify under Class 34.

16 Q. Okay. Now, just --

17 THE CHAIRMAN: Just for my purpose, what
18 is the thinking behind that regulation?

19 MR. VYROSTKO: Basically, by having a
20 certain level, a threshold level of efficiency - in
21 essence, the btu per kilowatthour measures the
22 efficiency associated with the cogen project - it then
23 qualifies typically for cogeneration or energy
24 efficiency which is, I believe, the thrust of Class 34.

25 THE CHAIRMAN: Thank you.

1 MR. SHEPHERD: Q. Mr. Vyrostk, are you
2 aware of whether Class 34 is restricted specifically to
3 cogeneration projects?

4 MR. VYROSTKO: A. No. It is available
5 for renewable projects.

6 Q. Aside from renewables, fossil
7 projects, is it restricted to cogeneration?

8 A. No. My understanding is it is
9 restricted to projects that, in fact, can get down to
10 7,000 btu per kilowatthour.

11 Q. Okay. And do all of the projects you
12 are currently considering meet the 7,000 btu test, the
13 fossil projects, obviously?

14 A. The which?

15 Q. The fossil and cogen, all the ones
16 that burn something; do they meet the 7,000 --

17 A. Do all of them meet it?

18 Q. Yes.

19 A. Again, I would think 99 per cent of
20 them would.

21 Q. And that actually includes that 350
22 megawatt project you were talking about, doesn't it?

23 A. I can't answer that.

24 Q. That project, the one we are
25 referring to, that major supply NUG, is not a

1 cogeneration facility, is it?

2 A. That is correct. We said it was and
3 it was a major supply NUG.

4 Q. Okay. And are you telling me you
5 don't know or you can't say whether it meets that Class
6 34 test?

7 A. I guess I am saying I don't know -
8 not that I can't say; I don't know.

9 Q. You don't know. Okay.

10 Mr. Brown, do you know the answer to
11 that?

12 MR. BROWN: A. I have not been involved
13 in that project -- no, I can't.

14 Q. Okay. But your evidence, as I
15 understand it on page 9 of the 1990 NUG plan, that is
16 Exhibit 83, where we were actually quoting before, it
17 says:

18 Class 34 is not available to projects
19 other than cogeneration and waste
20 resource facilities.

21 That is not correct, is it?

22 MR. VYROSTKO: A. I think the statement
23 still is correct, I would think.

24 Q. Well, if a combined cycle project
25 that is not cogeneration can get down below 7,000, it

1 qualifies, doesn't it?

2 A. If it could, I would imagine it
3 would.

4 Q. Will you undertake to find out
5 whether the one that you were talking about, the one
6 that you have signed up -- or sorry, I shouldn't -- the
7 one that you have made a preliminary deal with meets
8 the heat rate test for Class 34?

9 A. I cannot do that because I think that
10 that violates the situation of that customer right now.

11 Q. Okay. Can a non-resident of Canada -
12 for example, a U.S. developer - take advantage of Class
13 34?

14 A. I don't believe so.

15 Q. Now, it is true that you have
16 recently agreed to terms with several U.S. developers,
17 haven't you, including one with a 226 megawatt facility
18 in Kingston? That is true, right?

19 A. We are in the process of concluding a
20 deal with one in Kingston, that is correct.

21 Q. And that is 226 megawatts, is a U.S.
22 developer?

23 A. That's correct.

24 Q. And can I assume then that that
25 project isn't going to get Class 34, right?

1 A. Again, I don't know that. It is not
2 up to me to decide whether the project gets Class 34.
3 It is the proponent's responsibility. And how they put
4 the project together, it is their responsibility.

5 Q. Well, as I understand your evidence,
6 and maybe you can correct me if I am wrong here, if
7 that or any other project doesn't get Class 34, then on
8 your evidence, it is not going to be economically
9 viable. It is not going to happen, right?

10 A. Well, let's just go back. In our
11 1990 NUG plan, we said that projects that didn't get
12 Class 34 weren't economically viable.

13 Q. Yes.

14 A. Again, not knowing all the facts, but
15 I would think generally speaking, the gas prices in
16 roughly the summer of 1990 when we were doing some of
17 the analysis and the gas prices now are probably 30 or
18 40 per cent less.

19 And so, you know, I guess what the
20 proponents are telling us their project development is
21 possibly gas has come down below the threshold where
22 Class 34 is the key criteria.

23 Q. I see. I seem to recall a
24 discussion, some direct evidence yesterday - I am just
25 recalling this - that the drop in gas prices from last

1 year to this year was 20 per cent; isn't that what you
2 said, Mr. Brown.

3 MR. BROWN: A. The number recorded was
4 20 per cent, but you have to also take into account we
5 are expecting a 7 per cent increase; the difference
6 almost 30 per cent.

7 Q. So when you say gas prices have
8 dropped 30 or 40 per cent, that is not correct?

9 A. They have dropped 20 per cent.

10 Q. Okay.

11 A. The expectation has dropped 30 per
12 cent.

13 Q. Now, the gas prices you are talking
14 about there, they are the long-term gas prices, right?

15 MR. VYROSTKO: A. No. The prices I am
16 talking about are the short-term gas prices.

17 Q. Is that what is referred to as the
18 spot prices?

19 A. No, it is not. It is the short-term
20 gas prices over the next three to four years.

21 Q. But don't the developers sign
22 long-term gas contracts?

23 A. Yes.

24 Q. So isn't it the long-term gas prices
25 that affects them?

1 A. Yes. As I mentioned before this
2 morning, it is not only the gas prices, but it is the
3 expectation of the escalation. And where, you know, a
4 year ago or a year-and-a-half ago, they were looking at
5 virtually flat prices - this is back in 1990 and 1989 -
6 flat prices with a very high escalation, the prices
7 have actually dropped now and the escalation is not the
8 same as it was before.

9 Q. Now, I am probably just dense here,
10 but I am looking at page 17 of your Exhibit 320. And
11 you know, maybe this is just not applicable, but I
12 don't see any 30 or 40 per cent or 20 per cent drop in
13 gas prices indicated by that chart.

14 Have I misunderstood your evidence?

15 [4:07 p.m.]

16 A. I think Mr. Brown said that this is
17 the forecast that Ontario Hydro has for natural gas
18 prices. And what I am talking about is the gas
19 contracts that are in fact being negotiated.

20 Q. There is a big difference between the
21 two.

22 A. There is at the moment, that's
23 correct.

24 Q. Let's come back to Class 34. The
25 proposals that you are signing up now -- sorry,

1 agreeing to now, they were all proposed to you last
2 year, weren't they?

3 A. Yes, they were.

4 Q. And so presumably the developers
5 would have been looking at last year's gas prices when
6 were making those proposals; right?

7 A. That's correct.

8 Q. And at that time you decided that
9 their projects weren't economic; they weren't in last
10 year's plan; right?

11 THE CHAIRMAN: We are talking about the
12 additions this year; is that right?

13 MR. SHEPHERD: Yes, the 1,000 megawatts
14 that we were told --

15 THE CHAIRMAN: To the extent that those
16 additions were last year's proposals.

17 MR. SHEPHERD: Q. I think Mr. Vyrostk
18 has said - correct me if I am wrong, Mr. Vyrostk -
19 that they are all last year's proposal.

20 MR. VYROSTKO: A. They are all last
21 year's proposals.

22 Q. So my question is, is it your
23 evidence that they were not viable last year?

24 A. We expected most of them not to be
25 viable.

1 Q. The developers thought they were
2 viable, though; is that right?

3 A. They submitted them as a proposal
4 under their request for proposal, so the expectation
5 was that they would be able to put a deal together.

6 Q. So they turned out to be right.

7 THE CHAIRMAN: I'm sorry. Just so I
8 understand, the reason for the increase is not because
9 you have got new proposals; it's because proposals that
10 were already on the table have become acceptable to
11 Hydro? Is that what you are saying?

12 MR. VYROSTKO: That's correct.

13 MR. SHEPHERD: Q. So, the developers
14 when they made those proposals last year, it turned out
15 they were right; is that correct? Those 1,000
16 megawatts?

17 MR. VYROSTKO: A. The proposals, most of
18 those proposals were submitted through our RFP which
19 came in January of 1990. And so they put the proposal
20 together thinking that it can happen.

21 Q. You didn't think it could happen last
22 year?

23 A. Our assessment in the forecasting was
24 that we didn't think it could happen.

25 DR. CONNELL: Excuse me, that sounds to

1 me contrary to the response you gave me this morning,
2 Mr. Vyrostko. We are looking at the 1989 line and I
3 recall you telling me that you thought that the
4 proponents had a view that gas prices might in the
5 future be much higher than the Hydro forecast.

6 MR. VYROSTKO: That's correct.

7 DR. CONNELL: Are you not now saying that
8 when they put in their proposals last year, they were
9 anticipating lower prices?

10 MR. VYROSTKO: No, I am not saying that
11 at all.

12 There is really two players in here. One
13 is the gas producers and that is the people who in fact
14 will sell the gas, and then the developer.

15 The developer would put a project
16 together and submit it to us as a project on the
17 expectation that they can make the deal go forward, for
18 a lot of different reasons, whether it's our avoided
19 costs, whether it's the capital cost that they can
20 bring to the table or with the expectation that
21 possibly they can get cheap gas.

22 The gas producers haven't necessarily, at
23 the time when they were submitting these proposals,
24 agreed with the developers that in fact gas was cheap.
25 So, the developers came in with a proposal and they

1 were anticipating that they can make that project
2 happen under whatever the circumstances were.

3 And what has happened is that based on
4 our knowledge of the industry and the gas prices that
5 were there when the developers put the proposals
6 together, some of those proposals we didn't think would
7 materialize. But now with gas prices coming down and
8 them going to the industry and in fact negotiating
9 better deals, more projects than we thought could
10 happen through the RFP in fact didn't materialize. So
11 that escalated the development of the projects that we
12 thought could happen.

13 DR. CONNELL: Have some of the responses
14 to the RFPs been revised or are they still going with
15 their original gas price estimates?

16 MR. VYROSTKO: When the proposal comes to
17 us there is no price in there. So, in fact, a number
18 of those projects we actually didn't get into
19 negotiating the project until the latter part of 1990.
20 So even though they submitted them back in January of
21 1990, there was no real activity going on with those
22 projects later on in the year.

23 DR. CONNELL: So that the expectations
24 which they had are now being realized.

25 MR. VYROSTKO: I guess so, yes.

1 DR. CONNELL: With regard to price.

2 MR. VYROSTKO: Yes.

3 THE CHAIRMAN: I thought you said a few
4 minutes ago that these proposals were proposals that
5 had been unacceptable to Hydro a year ago and had
6 become acceptable in 1991. Was I wrong? Do I have a
7 wrong impression of what you said?

8 MR. BROWN: The word "viable" might be
9 better. When I forecasted the 1990 NUG plan, it was
10 only high-efficiency cogeneration that looked viable at
11 that time. None of these were high-efficiency
12 cogeneration projects.

13 Now with the drop in gas prices, it
14 doesn't have to be high-efficiency cogeneration to be a
15 viable project. So I don't know if the proponents knew
16 that ahead of time or it just happened.

17 THE CHAIRMAN: Maybe I should ask you,
18 and this may sound as if I haven't been paying
19 attention, but what do you mean when you say a viable
20 project?

21 MR. BROWN: In the forecast it's using my
22 cogeneration assessment model and I look at typical
23 types of projects protection, which ones are economic.

24 THE CHAIRMAN: Economic from Hydro's
25 point of view?

1 MR. BROWN: No.

2 THE CHAIRMAN: That's what I am trying to
3 get at. You look at the economies from the proposers
4 point of view?

5 MR. BROWN: To do the forecasts I do.
6 When we negotiate a project you don't do that.

7 THE CHAIRMAN: If they make a proposal,
8 which they are prepared to adhere to, why do you care?

9 MR. BROWN: Well, there is 6,500
10 megawatts of proposals. When we looked at them last
11 year none of them looked viable.

12 MR. VYROSTKO: I think the other
13 important point though is when the proposal comes in,
14 it has no price, so we have no way of knowing what the
15 price of that proposal is. It comes in with the
16 technical elements as we outlined through our request
17 for proposal document, but no price offer is actually
18 put on the table. And then there is an assessment made
19 whether we think that that type of project would in
20 fact be an economic project.

21 THE CHAIRMAN: But if you don't know what
22 the price is that they are going to charge you, how do
23 you know whether it's going to be economic or not?

24 MR. BROWN: That's part of my forecast.
25 I run my cogeneration model to determine which projects

1 I think are viable, and the higher the efficiency the
2 more economic the project using last year's
3 information, and that was the gas forecast that was
4 shown in Figure 17 of Exhibit 320.

5 THE CHAIRMAN: But you are going to pay
6 these proposers based on your avoided cost
7 calculations, that's your negotiating base, or ceiling
8 I guess is a better way of putting it. You will
9 negotiate the best deal you can within that ceiling
10 requirement.

11 MR. VYROSTKO: That's correct.

12 THE CHAIRMAN: And whether or not the
13 person who is bringing the deal to you is going to make
14 money or how much money they are going to make, you
15 don't care, as I take it from your earlier evidence.

16 MR. VYROSTKO: That's correct.

17 THE CHAIRMAN: But you are saying, when
18 you look at these proposals that came in, they didn't
19 make any sense because you didn't think the proposer
20 could make any money out of it. Is that what you are
21 saying?

22 MR. BROWN: At that time they were coming
23 in, yes.

24 MS. PATTERSON: Is the 6,500 megawatts
25 all cogeneration or were they everything?

1 MR. BROWN: There was a mixture in there,
2 I am not sure. About half of it was cogeneration.

3 MS. PATTERSON: So you just shifted or
4 took everything else out except the cogeneration and
5 then you evaluated those?

6 MR. BROWN: That's correct.

7 MR. SHEPHERD: Q. I wonder, Mr. Brown,
8 if you could turn up Interrogatory 5.14.64, and this is
9 not actually in the part I have copied because I didn't
10 expect this to come up.

11 THE CHAIRMAN: It's not in the package?

12 MR. SHEPHERD: It's not in the package.
13 It's a very thick interrogatory, so I only copied a
14 couple of those pages, and this is not on one of those
15 pages.

16 5.14.64. I am actually going to read it
17 into the record, if you wish, Mr. Chairman.

18 THE REGISTRAR: 321.11.

19 (5.14.64 previously numbered.)

20 MR. SHEPHERD: Q. Do you have that have
21 there?

22 MR. BROWN: A. Yes.

23 Q. Can you take a look at page 14. I
24 wonder if you could just describe what this document is
25 that we are looking at. What is the document that is

1 attached to this interrogatory that we are looking at?

2 A. This is the information package that
3 was sent out to all RFP proponents.

4 Q. I am reading here, on page 14 at the
5 bottom, it says:

6 Sponsor must have satisfactory
7 evidence of market access and price,
8 supply and transportation to the primary
9 and secondary fuels or availability of
10 the primary and secondary energy sources
11 as appropriate for the contract term.

12 Isn't in fact true, Mr. Brown, that every
13 application that you had on January 25th, 1990, had a
14 fuel price in it because you required it?

15 MR. VYROSTKO: A. Perhaps I can answer
16 that. The answer is no.

17 Q. And so that they just didn't comply
18 with your RFP requirements?

19 A. All we were looking for in there was
20 that they in fact had looked at fuel, in fact had a
21 source of fuel that they can go to.

22 The actual price was not negotiated at
23 that time, because typically we wouldn't negotiate the
24 overall project.

25 The proponent normally wouldn't negotiate

1 his fuel until he has had time with us negotiating the
2 details of the overall project, because at that time he
3 really doesn't know what overall affordability limit
4 is.

5 Q. So what does satisfactory evidence of
6 fuel supply price mean?

7 A. Actually, all we would be looking for
8 there is the prospective people that he will be
9 negotiating with. There might be a letter of intent
10 saying that they have started discussions with the
11 proponent and that he in fact may be one of the people
12 that the producer would be prepared to enter into a
13 contract with.

14 Q. So, he sort of had to have done his
15 homework on supply and transportation or you wouldn't
16 want to talk to him; is that fair?

17 A. Again, I would think that they would
18 have done some looking at what is out there, but they
19 wouldn't have had any details with regard to contracts.

20 Q. I think we probably followed this
21 tangent far enough.

22 I just want to finish off on Class 34,
23 just a couple of things. You have said that the
24 statement in your 1990 NUG plan that all projects have
25 to have Class 34 to be viable, that's not true anymore;

1 is that correct?

2 MR. BROWN: A. This is true.

3 Q. Oh, it is still true?

4 A. Sorry, your statement is you don't
5 have to have Class 34 to be viable.

6 Q. That statement is true?

7 A. Yes.

8 Q. Is it your expectation that the bulk
9 of the projects that come to you will get Class 34?

10 MR. VYROSTKO: A. Yes.

11 Let me just go back. You said the
12 projects that will come to us?

13 Q. That you have now or that you are
14 going to get in the next two years or whatever.

15 A. Well, I guess I can talk about what
16 we have got to date. I would say the majority of the
17 projects get Class 34.

18 Q. Is it your expectation that the 3100
19 megawatts will be largely made up of the projects that
20 get the Class 34 incentive?

21 A. Yes.

22 Q. Let's just suppose that Class 34 was
23 cut to a third of its current benefit value today,
24 right now. I am looking to see if there is any
25 cogenerators in the room having heart attacks. If that

1 happened today, what sort of impact would it have on
2 your forecast?

3 A. I would have to ask my forecaster.

4 Q. Mr. Brown?

5 MR. BROWN: A. We haven't studied the
6 sensitivity of that.

7 Q. Do you believe it would have a large
8 impact?

9 A. A one-third cut?

10 [4:24 p.m.]

11 Q. A cut from full to one third.

12 THE CHAIRMAN: I'm sorry, what are we
13 cutting?

14 MR. SHEPHERD: The benefit of Class 34,
15 the actual net present value of that tax benefit.

16 MR. BROWN: I can't speculate on it.

17 DR. CONNELL: What is the rate under
18 Class 34? It's an accelerated rate.

19 MR. VYROSTKO: I believe the rate is -
20 it's over three years - so I believe it's 25 per cent
21 the first year, 50 per cent the second year, and 25 per
22 cent the last year.

23 DR. CONNELL: And for those that don't
24 qualify, it would be...?

25 MR. VYROSTKO: It would be straight line

1 with the age of the facility. If it's a 20-year plant,
2 I would imagine, you know, 1/20th.

3 THE CHAIRMAN: So it's straight line not
4 declining balance?

5 MR. VYROSTKO: Yes, I would assume --
6 that's beyond my expertise.

7 MR. SHEPHERD: Mr. Chairman, maybe I can
8 frame this in a question.

9 Q. Mr. Vyrostkco, can you confirm or
10 undertake to confirm that if a project does not get
11 Class 34 it is, therefore, a Class 1 and has 2 per cent
12 declining balance depreciation?

13 MR. VYROSTKO: A. Could you repeat that,
14 please?

15 Q. Can you confirm or undertake to
16 confirm that if a project does not qualify for Class 34
17 then it would come under Class 1 and get 2 per cent
18 declining balance depreciation?

19 A. I guess -- the non-utility generation
20 division does not make that call, whether the project
21 does or does not get Class 34 or whatever it gets, so
22 I'm not sure what it would get. I'm not an expert in
23 tax law.

24 Q. Fair enough. I was just trying to
25 find an indirect way of providing the Chairman with his

1 answer, that's all.

2 A. So it's 2 per cent, is what you're
3 telling me. Thank you.

4 Q. Of course, my questions are not
5 evidence.

6 MR. B. CAMPBELL: We will accept
7 submissions. It's perfectly appropriate for counsel to
8 make submissions on the law.

9 MR. SHEPHERD: Okay.

10 Q. Just a couple of other questions on
11 this. You've agreed that U.S. developers or foreign
12 developers don't get Class 34; correct?

13 MR. VYROSTKO: A. And structured as an
14 American company, that's correct.

15 Q. And you've signed a number -- or
16 you've agreed to terms of a number of U.S. developers?

17 A. We have agreed to one, the one you're
18 referring to is 226 megawatts.

19 Q. Okay. And you have several more
20 before you that you consider probable projects; don't
21 you?

22 A. We have proposals from a number of
23 other developers outside of the province.

24 Q. Okay. And at this point we shouldn't
25 assume that those are all going to fail because of the

1 lack of Class 34 because fuel prices have changed;
2 right?

3 A. Possibly, yes.

4 Q. All right. Is Class 34 an all or
5 nothing benefit; you either get 25, 50 and 25 or you
6 get nothing?

7 A. Again, I can't answer that. That's
8 not in my expertise.

9 Q. Okay. Mr. Brown, do you know?

10 MR. BROWN: A. I can't comment.

11 Q. Maybe this is for Mr. Brown.

12 THE CHAIRMAN: I don't think we can make
13 many conclusions about Class 34 out of this last hour,
14 but it does come to me as a surprise that a Canadian
15 taxpayer with a plant in Canada wouldn't get the full
16 benefit, regardless of where the ultimate ownership
17 was.

18 When you talk about U.S. corporation, do
19 you mean a US entity or do you mean --

20 MR. SHEPHERD: A US entity, yes.

21 THE CHAIRMAN: Not a resident Canadian
22 taxpayer?

23 MR. SHEPHERD: Well, unfortunately,
24 because the panel can't deal with the technical
25 aspects, I can't go into why in those circumstances

1 they don't get it either, but we will lead evidence on
2 it later and it will all become clear, I hope.

3 THE CHAIRMAN: All right.

4 MR. SHEPHERD: I think we'll do an
5 exhibit on that in the next few days.

6 Q. So just one other question on that
7 then; and, that is, Mr. Brown, have you had occasion
8 during the course, say, of your forecasting to try to
9 estimate the net present value in a project of the
10 Class 34 benefit, tax benefit?

11 MR. BROWN: A. With and without?

12 Q. Yes. Yes, the difference in net
13 present value terms?

14 A. No, we haven't in that definition.
15 If you refer to Interrogatory 5.14.216--

16 Q. 5.14.216?

17 A. Yes.

18 Q. Okay.

19 A. And in response to this interrogatory
20 we ran our cogeneration model with and without Class 34
21 and showed a difference in the internal rate of return
22 with and without that assumption.

23 Q. You have a specialist in your
24 division; don't you, who is quite familiar with the
25 technical aspects of this; isn't that right, Mr. Tong?

1 MR. VYROSTKO: A. He's aware of the
2 application of Class 34.

3 Q. I wonder if you could undertake to
4 provide us with an estimate of the typical net present
5 value impact of having or not having Class 34?

6 THE CHAIRMAN: I thought that was what
7 was in the interrogatory.

8 MR. SHEPHERD: That's internal rate of
9 return, Mr. Chairman.

10 MR. BROWN: Well, there's two ways to
11 looking at a benefit, either a net present value or
12 internal rate of return.

13 MR. SHEPHERD: Q. Yes.

14 MR. BROWN: A. We're providing you with
15 internal rate of return. Is that not sufficient?

16 Q. Let me put this to you another way.
17 Is it correct to state that the value of Class 34, if
18 it can be fully utilized, is approximately equivalent
19 to a 30 per cent cash grant on the capital cost?

20 A. That I can't answer.

21 Q. Can you undertake to find that out?

22 MR. SHEPHERD: If it's a problem to
23 calculate that, I'm quite prepared to accept that, we
24 can put it in our own exhibit and leave at that.

25 I thought it was easy to calculate it; if

1 it's not...

2 MR. B. CAMPBELL: I make no comment about
3 how easy or not easy it is. As I understand it, it has
4 not been calculated, so short of asking -- if you're
5 content to do it, that suits me fine. Thank you very
6 much.

7 MR. SHEPHERD: All right.

8 Q. Okay, let's --

9 THE CHAIRMAN: Should Interrogatory
10 5.14.216 be given a number?

11 MR. SHEPHERD: Oh yes.

12 THE REGISTRAR: With respect, Mr.
13 Chairman, 321.1 was given to 5.14.64, then 5.14.64 came
14 up just now and we gave it the number 321.11, so that
15 should be negated and 321.11 should now be 5.14.216.
16 ---EXHIBIT NO. 321.11: Interrogatory No. 5.14.216.

17 THE CHAIRMAN: All right.

18 THE REGISTRAR: Thank you.

19 THE CHAIRMAN: Thank you, Mr. Lucas.

20 MR. SHEPHERD: Q. Mr. Vyrostkko, could
21 you turn in the 1990 NUG plan to Tables A3.7, .8 and
22 .9, those are the foldouts at the back.

23 Maybe you could start with A3.8. Okay.
24 Now, I understand that you've since filed a correction
25 to this spread sheet; is that right?

1 MR. VYROSTKO: A. That is correct.

2 Q. What was wrong with it in the first
3 place?

4 MR. BROWN: A. In the years 2000 and the
5 year 2005 the treatment of the capital investment was
6 incorrect in the spread sheet formulas. 1995 was
7 correct.

8 Q. Okay. The year 2000, the effect of
9 doing that was to overstate the rate of return; is that
10 right?

11 A. In the year 2000 case it did
12 overstate it because it wrote off the capital twice.

13 Q. Okay. It was an error in your
14 treatment of Class 34, in effect; wasn't it?

15 A. No, it wasn't. Just an error in
16 developing the table.

17 Q. Well now, correct me if I'm wrong,
18 but I'm looking at this spread sheet and the first
19 three lines under income before tax, you have a
20 negative number. That's the mistake; right?

21 A. Those are negative.

22 Q. I'm sorry, I'm sorry, I'm looking at
23 the tax line. You have a tax saving in those three
24 years, that's a mistake; right?

25 A. That's correct.

1 Q. And so that's double counting the
2 Class 34; isn't it?

3 A. There's no Class 34 in that number.

4 Q. It's just treating the capital cost
5 as deductible?

6 A. That's correct.

7 Q. Okay. So the result was when you had
8 return on equities of 25, 24, 23.5 per cent, those were
9 way to high because you were getting too many tax
10 benefits; right?

11 A. That's correct.

12 Q. Okay. You didn't know that at the
13 time you published this?

14 A. We did not observe that, no.

15 Q. And then in the year 2005 one, which
16 is A3.9, that's also been corrected, as I understand.
17 What was the error there?

18 A. We triple counted the capital cost.

19 Q. You triple counted. Okay. And that
20 resulted in a return on equity that was way too low;
21 right?

22 A. Well, this one the tax part of it was
23 correct but the cash flow was incorrect.

24 Q. That's right. It looks to me like in
25 the first three years you have assumed that you paid

1 the capital cost twice; right?

2 A. That's right.

3 Q. Okay. And the result was that you
4 badly understated the return on equity; right?

5 A. For this particular one, yes.

6 Q. Okay. And you didn't know that at
7 the time you published this plan?

8 A. We didn't pick it up, no.

9 Q. Okay.

10 THE CHAIRMAN: And I take it these
11 numbers have been published somewhere else now and
12 corrected?

13 MR. BROWN: In Exhibit 143.

14 THE CHAIRMAN: Thank you.

15 MR. SHEPHERD: Q. Exhibit 143 corrects
16 those spread sheets; is that right?

17 MR. BROWN: A. Yes.

18 Q. Now, I'm going to ask you to look at
19 page 5 of the 1990 NUG plan. The last complete
20 paragraph on that page, it says:

21 "A spread sheet analysis ...", that's
22 this one I assume?

23 A. Yes.

24 MR. B. CAMPBELL: I'm sorry, are we
25 looking at the new version in Exhibit 143 of that

1 chapter or the old version in Exhibit --

2 THE CHAIRMAN: 83.

3 MR. B. CAMPBELL: 83?

4 MR. SHEPHERD: I'm looking at Exhibit 83.

5 MR. B. CAMPBELL: Okay, thank you.

6 MR. SHEPHERD: "A spread sleet analysis
7 of the economic feasibility of a typical
8 cogeneration project is outlined in
9 Appendix 3. The analysis was conducted
10 over pre-selected in-service years of
11 1995, 2000 and 2005. The analysis
12 indicated an increasing economic
13 feasibility between the mid-1990s and the
14 year 2000. After the year 2000 the
15 growth of industrial cogeneration is
16 expected to peak and then taper off due
17 to the fact that the most attractive
18 sites would already have been developed
19 and that forecast gas prices outpace
20 electricity prices over the forecast
21 period. "

22 Now, that's based on these three spread
23 sheets of which two of them are wrong; isn't that
24 correct?

25 MR. BROWN: A. Yes.

1 THE CHAIRMAN: In 143, I point out
2 there's only been one word changed in the 143, the same
3 paragraph.

4 MR. SHEPHERD: Yes, I understand.

5 THE CHAIRMAN: The word slightly has been
6 inserted.

7 "...analysis indicated a slightly
8 increasing economic feasibility..."

9 MR. SHEPHERD: Okay.

10 Q. Do I read this right that you formed
11 your conclusions on economic feasibility of typical
12 cogen projects on the basis of these spread sheets?

13 MR. BROWN: A. The 1990 plan was
14 developed with those spread sheets.

15 Q. And so you formed conclusions on the
16 basis of those?

17 A. The 1990 NUG plan.

18 Q. Well, but they were wrong?

19 A. I know that now.

20 Q. Well then, doesn't that mean your
21 conclusions are wrong?

22 THE CHAIRMAN: They've changed their
23 conclusions by inserting the word slightly.

24 MR. SHEPHERD: Well, Mr. Chairman, that's
25 not their conclusion, though, that's only their

1 explanation of the conclusion, it is their explanation
2 of the data.

3 THE CHAIRMAN: Well --

4 MR. BROWN: The data in the revised
5 spread sheets show essentially the same information,
6 that's why we put the word slightly. Instead of going
7 up to 25 per cent, it goes to a different number.

8 MR. SHEPHERD: Q. Okay. I'm going to
9 ask you then to look at Interrogatory 5.14.161.

10 THE CHAIRMAN: Has it been marked?

11 MR. SHEPHERD: No, I don't believe so,
12 Mr. Chairman.

13 THE CHAIRMAN: We would like a number for
14 it?

15 [4:37 p.m.]

16 THE REGISTRAR: 321.12, Mr. Chairman.

17 ---EXHIBIT NO. 321.12: Interrogatory No. 5.14.161.

18 MR. SHEPHERD: Q. Now, this is telling
19 us what the new internal rates of return are in those
20 same spread sheets, isn't it, on the basis of corrected
21 data; isn't that right?

22 MR. BROWN: A. Although it refers to
23 Interrogatory 5.4.21, it was later changed to Exhibit
24 143, so there is a slight error in that interrogatory.

25 Q. That is fine. So this looks like it

1 says the IRR is absolutely dead on from 1995 to 2000
2 and it only drops slightly after that; isn't that what
3 it says there?

4 A. It does drop slightly after the year
5 2000.

6 Q. Okay. And it is dead on from 1995 to
7 2000, right?

8 A. Those look correct.

9 Q. So you thought - tell me if this is
10 correct - you thought when you do your projections that
11 economic feasibility would increase between the
12 mid-1990s and the year 2000 and then drop off?

13 A. Yes.

14 Q. Now you know that isn't true?

15 A. It would still drop off after the
16 year 2000.

17 Q. But it doesn't increase in the
18 initial period?

19 A. From this information, it looks
20 fairly steady.

21 Q. And the drop-off is very slight,
22 right?

23 A. Yes.

24 Q. And if I take your evidence
25 correctly, the basis of your cogeneration projections

1 last year was these economic analyses, right?

2 A. In the '90 NUG plan, yes.

3 Q. So your '90 NUG plan numbers must be
4 wrong; is that right?

5 A. That is why I issued an errata.

6 Q. Okay. But you didn't change your
7 conclusions in your NUG plan?

8 A. Yes, I did.

9 Q. Sorry, you changed the cogeneration
10 estimate in the 1990 NUG plan?

11 A. Oh, the year 2000 number did not
12 change, so ...

13 Q. Okay. But you had a spread sheet in
14 front of you that said that the return on equity was
15 going to be 25 per cent and that is what you based your
16 projections on, right, for the year 2000?

17 A. That is not correct.

18 Q. It is not, correct?

19 A. No.

20 Q. Well, did you base your projections
21 on these three spread sheets that were in the 1990 NUG
22 plan or not?

23 A. When we developed the forecast, we
24 were looking for the steam capacity factor of a viable
25 project. These are just samples that are in the NUG

1 plan of that analysis. And both analyses, with and
2 without the change -- you have got to remember, there's
3 other changes that we did as well in the errata. All
4 of these indicated that the steam capacity factor of 70
5 per cent was required.

6 Now, in the 1990 NUG plan, we said that;
7 it just so happened when we redid it, it was just the
8 same number.

9 Q. Just coincidental?

10 A. The two were done completely
11 different.

12 Q. The 1991 NUG plan, will it also use
13 spread sheet analysis to get to the cogeneration
14 number?

15 A. Yes, it will, for industrial
16 cogeneration.

17 Q. Now, you have testified, I think,
18 that the internal rate of return on a project drops by
19 3 to 5 per cent if it doesn't get Class 34, right?

20 A. That was in that interrogatory
21 referred to earlier.

22 Q. Okay. And your spread sheets all
23 assume full utilization of Class 34, correct?

24 A. They do.

25 Q. So is it fair to say that what we are

1 going to see in your new spread sheets - if you haven't
2 done them, that is okay; you can say you don't know -
3 is it fair to say that we will see that the loss of
4 Class 34 benefits in some projects will be offset by
5 the gas prices, lower gas prices in your new model?

6 A. The new model will be looking at
7 high-efficiency cogeneration.

8 Q. So you will still assume Class 34?

9 A. Yes, I will.

10 Q. But with much lower gas prices?

11 A. I will be using the forecast shown on
12 Exhibit 320.

13 Q. Well, now, I don't understand this.

14 This is page 17 of 320, right?

15 A. The one with the three gas forecasts.
16 I have it in front of me.

17 Q. Now, I have been hearing you say that
18 the reason why you have got so much more this year than
19 you expected last year is because gas prices went down
20 some 20 or 30 or 40 or whatever the percentage is, but
21 that is not this, right?

22 A. That's correct.

23 Q. And that is why your forecast last
24 year was wrong; is that correct? The real gas prices
25 went down.

1 A. The reason we have the extra 1,000
2 was because gas has gone down.

3 Q. Okay. But now for your new plan, you
4 are going to use the forecast that doesn't consider
5 that change; is that right?

6 A. There is a change there. You can see
7 the starting price is lower and it is lower up until
8 the year 2001 and 2002.

9 Q. Okay. But it is nothing like 20 or
10 30 or 40 per cent, is it?

11 A. That is correct.

12 Q. But that is the forecast you are
13 going to use to model economic viability?

14 A. Yes.

15 MR. SNELSON: A. Mr. Shepherd, that is
16 the corporate forecast of gas prices as they will be in
17 the future. And the witnesses who are most experienced
18 in that area will be on Panel 8 to talk about the
19 forecast of gas prices.

20 Q. Well, I am not concerned with whether
21 the forecast is correct or not, Mr. Snelson. All I am
22 asking Mr. Brown is, is he going to use this or is he
23 going to use what is affecting projects today?

24 And I take it your answer is your going
25 to use this?

1 MR. BROWN: A. My forecast is a 25-year
2 forecast, not what is happening today.

3 Q. Okay.

4 A. So in that regard, I used the
5 long-term gas forecast.

6 Q. I hesitate to ask this given the
7 previous discussions on Class 34, but I will ask it
8 anyway: Mr. Vyrostko, I don't know whether you have
9 seen the line of questioning developed by counsel for
10 AMPCO in Panel 2 dealing with the possibility that
11 Class 34 would cause rapid turnover of projects; were
12 you aware of that?

13 MR. VYROSTKO: A. No, I am not.

14 Q. Well, maybe you can turn up the
15 transcript reference there - Volume 32, page 5598.

16 MR. B. CAMPBELL: We are going to have to
17 get it, if we could have a moment.

18 MR. SHEPHERD: I think it is one of the
19 ones we advised you of, Mr. Campbell.

20 THE CHAIRMAN: Volume what, please?

21 MR. B. CAMPBELL: Oh, if it is one on
22 your list from yesterday, I think they will have it.

23 THE CHAIRMAN: Volume what, please?

24 MR. SHEPHERD: Volume 32, page 5598.

25 THE CHAIRMAN: Thank you.

1 MR. SHEPHERD: Q. If you start reading
2 beginning at line 15, it is just a couple of lines.

3 MR. SNELSON: A. I believe this was
4 actually Panel 3 evidence and not Panel 2.

5 Q. I am sorry, it is a typo in my
6 questions here. I apologize.

7 So, do you have that, Mr. Vyrostk?

8 MR. VYROSTKO: A. I do.

9 Q. Do you understand what that was? Do
10 you have any knowledge of whether it is correct to say
11 that Class 34 promotes rapid turnover of NUG projects?

12 A. No. I am not familiar with that.

13 Q. You have never done any investigation
14 to see whether that is true?

15 A. No.

16 Q. Okay. I told you I wasn't sure
17 whether I should ask the question.

18 Mr. Vyrostk, has Ontario Hydro taken any
19 steps over the last five years that you are aware of to
20 discuss the advantages and disadvantages of Class 34
21 with the Federal Department of Finance?

22 A. I believe we have had some
23 discussions on Class 34, but I am not sure with who or
24 by whom.

25 Q. Are you aware of any specific

1 discussions between Ontario Hydro and the Department of
2 Finance in the spring and summer of 1988 related to
3 Class 34 financing techniques?

4 A. I am not familiar with that, no.

5 Q. Do you know whether such discussions
6 took place?

7 A. I guess as I said, I understand that
8 we have had discussions with respect to Class 34 with
9 the federal government; when that happened, I am not
10 sure about.

11 Q. I am going to ask you -- I am just
12 not sure how to deal with this. I thought you would
13 know, sorry -- can you undertake to determine whether
14 Ontario Hydro in the spring and summer of 1988 had
15 discussions with the Department of Finance and advised
16 the Department of Finance that there would be billions
17 of dollars of projects utilizing Class 34 in the
18 upcoming couple of years? Can you undertake to
19 determine whether that took place?

20 A. I can do that.

21 THE CHAIRMAN: Number?

22 THE REGISTRAR: It is 321.13 --

23 MRS. MORRISON: It is an undertaking.

24 THE REGISTRAR: Undertaking, sorry -

25 322.4.

1 ---UNDERTAKING NO. 322.4: Ontario Hydro undertakes to
2 determine whether Ontario Hydro in the
3 spring and summer of 1988 had discussions
4 with the Department of Finance and
5 advised the Department of Finance that
6 there would be billions of dollars of
7 projects utilizing Class 34 in the
8 upcoming couple of years.

9 MR. SHEPHERD: Q. There were some
10 changes to the Class 34 rules in December of 1988, were
11 there not?

12 MR. VYROSTKO: A. That's correct.
13 Q. And did they generally make Class 34
14 less available to non-utility generators?

15 A. I believe they did.

16 MR. SHEPHERD: Okay. I just have one
17 more thing, Mr. Chairman. I am going to file another
18 exhibit, I think, if I can find it.

19 THE REGISTRAR: No. 325.

20 ---EXHIBIT NO. 325: Document Precis entitled, "Excerpt
21 from the transcript of the Ontario Energy
22 Board, HR 16, dated July 15, 1987.

23 MR. SHEPHERD: Q. I am going to ask you,
24 Mr. Vyrostkco, to read this through. Maybe you can
25 start from about page 5126 at the bottom and just read
26 those couple of pages.

27 Mr. Vyrostkco, can you advise us who
28 Hedley Palmer is and what his position was in 1987?

29 MR. VYROSTKO: A. Mr. Palmer is a

1 retired Hydro employee who was Director of Product
2 Services, I believe, in 1987.

3 Q. And isn't it true, Mr. Vyrostko, that
4 Mr. Palmer was also the person at Ontario Hydro at that
5 time in charge of non-utility generation?

6 A. That's correct.

7 Q. I am going to ask you to look on page
8 5127 at line 11. Just to put this in context, Mr.
9 Palmer was being asked why is parallel generation, as
10 it was then called, in the marketing division or
11 marketing branch.

12 [4:50 p.m.]

13 At line 11 he said:

14 "And there needed to be a group who,
15 I'll put the matter bluntly, that didn't
16 have a pack on its back and built in
17 biases against the addition of
18 independent generation on the system."

19 Is it your recollection that that was
20 true in 1987, that there were people who had packs on
21 their back about independent generation?

22 A. I don't know, I wasn't in the
23 function at that time, so I can't answer that.

24 Q. Okay. Mr. Palmer goes on to say, he
25 is asked the question: "Are there areas of Hydro that

1 do have such biases?"

2 And his answer on line 17 is: "I think
3 so."

4 Now, I guess I am just going to ask, is
5 it true today that there are still people at Ontario
6 Hydro who have packs on their backs and built in biases
7 against independent generation?

8 A. I don't think so.

9 Q. So, the vice-president of the design
10 and construction branch who might be out of a branch if
11 independent power was too successful, he is still a
12 supporter of independent power and other such options
13 like demand management?

14 A. I believe he is.

15 Q. And everybody in his branch who might
16 feel their jobs are threatened, they are supporters of
17 independent generation as well?

18 A. I can't speak for some of those
19 people in that organization because I am not familiar
20 with them.

21 Q. Doesn't it concern you to know
22 whether your organization is behind you?

23 A. The corporation is behind me.

24 Q. And is it your evidence that there is
25 no significant resistance or biases against independent

1 generation in Ontario Hydro at the present time?

2 A. I would think with the growth that we
3 have shown through our forecast over the last two years
4 and with this preliminary one now, I wouldn't suggest
5 that there are any biases in the industry.

6 Q. And no resistance, no significant
7 resistance within the organization?

8 A. I would suggest no significant
9 resistance, yes.

10 MR. SHEPHERD: Thank you.

11 Mr. Chairman, I am planning to go on to a
12 whole new area of projections, I wonder if, even though
13 it's five to five, you might want to break now.

14 THE CHAIRMAN: We will break now and come
15 back tomorrow at ten o'clock. We are going to stop
16 around four o'clock tomorrow afternoon.

17 MR. SHEPHERD: Mr. Chairman, I should
18 tell you, in case you are wondering, that I am
19 presently directly on Schedule 4 Tuesday at the end of
20 the day.

21 THE CHAIRMAN: Thank you, Mr. Shepherd.

22 THE REGISTRAR: This hearing will adjourn
23 until ten o'clock tomorrow morning.

24

25

1 ---Whereupon the hearing was adjourned at 4:55 p.m., to
2 be reconvened on the Thursday, October 3rd, 1991, at
3 10:00 a.m.
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E R R A T A
and
C H A N G E S

To: Volume 67

Date: Tuesday, October 1, 1991.

Please note the following and make appropriate changes to your copy(ies) of the transcript.

Page v: Exhibit 321.3 should be "Interrogatory No.
5.14.111."

Page v: Exhibit 531.4 should be "Interrogatory No.
3.14.67."

Page 12090: Exhibit 321.5 should be "Interrogatory No.
5.9.18."

